HAMPTON VA

Winter Storm
Emergency Preparedness Plan

City of Hampton Public Works Operations

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HAMPTON VA

November 25, 2015

MEMORANDUM

TO: All Public Works Personnel

FROM: Tyler Richardson, Superintendent

SUBJECT: Emergency Planning - Snow

Snow season is rapidly approaching. Weather experts are predicting another season where snow activity is expected to be highly likely.

As Public Works employees, we are all considered essential personnel and should be prepared to report for duty and work through an event.

Please take time now to make the necessary preparations for your family, loved ones, pets and/or property. You should have a plan in place now for the possibility of an event that will require you to be working before, during and after an event.

During the month of November, we will conduct extensive training to prepare you for a major snow storm. I encourage you to take advantage of the training and hoep that you will contact me or my staff should you have questions or concerns over the process.

Respectfully,

Tyler Richardson
Tyler Richardson
Supt, Streets and Bridges

Public Works – Storm Water Division
419 N. Armistead Ave | Hampton, Virginia 23669
www.hampton.gov/publicworks | P: (757) 726-2922

Purpose:

The purpose of this Snow and Ice Removal Plan is to centralize information, policies, and procedures utilized by the Bridges and Streets Division of Public Works during winter storm events into a single document. The plan is also designed to be used as a guide and checklist of activities, assignments, and procedures in the event that a coordinating manager is experiencing their first winter storm event. This Snow and Ice Removal Plan is divided into three major sections dealing with pre-storm preparations; operations during the storm event; and post event activities designed to improve future responses to winter storm events.

Introduction:

The City of Hampton does not experience major winter storm events every year but their frequency is such that this Snow and Ice Removal Plan is necessary to respond to such events as they occur. Having such a plan allows Hampton to keep our transportation system operating, enables us to protect the motoring public, and allows Public Works to return life to a normal state as quickly as possible following a winter storm event. Snow accumulations of 3 to 6 inches are considered a “major” winter storm event for Hampton but we experience many more icing events and minor snowfalls that require a response by the Streets and Bridges Operations Division. Icing on bridge decks, overpasses, and streets constitutes the majority of the winter storm events that occur but the divisions response is basically coordinated the same way for any type of winter storm event with staffing being allocated based upon the magnitude of the event. The mission of the Streets and Bridges Operations Division during such events is to provide safe streets through efficient and timely snow and ice control and this is accomplished by being properly equipped, properly staffed, trained and well organized. All Public Works personnel are considered essential personnel and their response to a winter storm event is required as part of their job.

Pre-Storm Preparations:

The City of Hampton Department of Public Works trains and prepares yearly to handle any winter storm event that will affect streets and roads under our jurisdiction. This training function is critical to prepare staff for winter storm events and gives them a sense of what to expect when such an event occurs. New employees hired by the division are trained on safe winter driving practices, correct operation of plows and spreaders, maintenance of winter response vehicles, and they become familiar with the route(s) that they will be responsible for during a winter storm event. This hands-on training program is also valuable as a refresher for those employees who have already experienced a winter storm event especially if the event has not occurred in recent years. A copy of the Training Lesson Plan used by Streets and Bridges Operations in the pre-storm preparation for a winter storm event is found in Appendix 1. Copies of route sheets and attending maps used during a winter storm event for bridge salting and road plowing operations can be found in the Appendices of this plan.

Also during the year the fleet of snow plows and salt spreaders which are to be mobilized when a winter storm event is anticipated are put through routine maintenance checks as well as a comprehensive inspection in the fall of each year. This allows Streets and Bridges Operations personnel to immediately

identify issues and perform repairs as necessary to ensure that the equipment is ready to go prior to the winter season. This maintenance and repair function is critical to the fulfillment of the mission of the division during winter storm events.

Operations During A Storm Event:

When a winter storm event is forecast the Streets and Bridges Operations Division will begin monitoring various types of weather information to determine the need for a winter weather response. They utilize a variety of sources to determine the correct course of action including the National Weather Service based in Wakefield Virginia, the Weather Channel as a national source, local television stations weather forecasts, Langley Air Force Base weather observations, reports from Hampton Police division field units, and most importantly road surface and air temperature sensors located at the Booker T. Washington Bridge on Settler's Landing Road. Streets and Bridges Operations, in conjunction with Traffic Engineering and Operations, has future plans to install additional temperature sensors at the Hampton Creek Bridge located on East Pembroke Avenue; the overpass over Interstate 64 on Cunningham Drive; and on Hampton Roads Center Parkway over Magruder Boulevard. Additional locations may be added to the system as funds permit.

These road surface and air temperature sensors are monitored by the Traffic Engineering and Operations Division of Public Works and the Streets Supervisor. This is an early warning system for winter storm events. This remote sensing program allows Streets and Bridges Operations to respond in a rapid manner to bridge deck and street icing conditions which is a critical step towards being proactive at the onset of a winter storm event. The Traffic Control Center will be activated prior to and during the winter storm event to monitor temperature probes and CCTV cameras and will provide frequent updates to the Streets and Bridges Operations division.

In the event a response is required based upon the data being collected from these sources crews are alerted and work schedules are set. The Streets and Bridges Operations Division activates the Streets Hotline number (726-2980) when a winter storm event in imminent. This hotline has a recorded message which instructs which Public Works personnel from either the day or night shift schedule need to respond. This recorded hotline allows employees to access critical information while not tying up administrative personnel delivering shift and employee information. All Public Works employees are advised when the hotline is activated and they are responsible as essential personnel to check the recording and respond accordingly. Updates to the Streets Hotline message are made by the Superintendent of Streets and Bridges Operations, or their designee, as required. All personnel employed by the department are deemed as essential. Departmental personnel may be required to respond to a winter storm event.

This response required can be as minor as a single section of the Streets and Bridges Operations Division or as complete as an entire departmental mobilization depending on the severity of the forecast. The basic premise of the schedule is that whoever is mobilized for the winter storm event will be working a 12 1/2 hour day or night shift and this alternating shift plan will continue until all priority streets are clear of snow and ice.

Once storm operations begin Public Works uses several “anti-icing” practices to help prevent the ice and snow from freezing on the pavement, bridge decks, and overpasses. These include the use of treated salt, salt brine, and liquid calcium chloride. Plain sand is not normally used during a winter storm event due to the high cost of clean up after the event and it has no effect on the speed ice melts when it is added to the salt that is applied to the bridge decks, roadways, and overpasses.

Public Works realizes that it is impossible for the department to remove all the snow concurrently from all the streets therefore the level of service to be provided is determined by the type of street (primary, secondary, residential), the need to make emergency locations such as the hospital accessible to public safety vehicles, the need to clear main roads to facilitate emergency response, and specific road and intersection conditions as they change during the event. The department will use all available resources to keep all public streets open and passable for vehicular traffic during all but the most severe weather conditions. When traffic movement is severely restricted do to extreme weather conditions the department will operate continuously clearing streets in order to allow normal vehicular traffic flow to resume as quickly as possible. These clearing and salting operations will continue even though the level of effort may decline as progress is made and will continue until a safe and acceptable level of traffic flow is restored within the city.

The city has predetermined routes as found in the Appendices of this plan which are assigned by priority as described below. The intensity level and the duration of the winter storm event dictate the frequency with which the routes are plowed and/or treated. In the most severe winter storms, it may be necessary to reduce plowing of some of the lower priority streets in order to ensure that the main emergency service routes remain passable. All primary roads will be plowed when weather conditions improve. Prior to the beginning of each winter season these routes are reviewed and updated as necessary.

Bridges: Bridge decks, overpasses, etc., are the first areas to be addressed as they normally are the first areas to freeze. The objective of the department is to salt all bridge decks before icing can develop and to have the bridge decks cleared as soon as possible following initial snowfall or icing if at all possible.

Primary Roads: It is the city’s intent to do everything possible to ensure that a system of top priority routes (primary roads) remains open and passable at all times during a winter storm event. These routes are considered priority because they are vital to facilitate public safety response throughout the city and are common routes for commuting to work or for commerce. It is the goal of the department to have all primary streets and connector roads salted as soon as possible after a winter storm event begins. The severity of the event may dramatically impact this goal for the department.

Secondary Roads: Secondary roads are those streets considered major collectors but not necessarily primary travel routes. These streets are given attention once the primary travel routes have been addressed.

Driveways/Sidewalks: Due to limited personnel, equipment, and material, the city does not provide snow and ice removal service on private driveways. During and after a winter storm event it is the property owner’s responsibility to clear snow and ice from driveway entrances and sidewalks adjacent to their property. Public Works crews will not clear sidewalks or walkways nor attempt to “dig out”

private driveways during winter storm events. The city, either through Facilities Management or Streets and Bridges Operations, will only clear designated public sidewalks and pedestrian crosswalks in the downtown business district and locations at other city facilities as necessary.

During or after a winter storm event, property owners, commercial establishments, and contractors are prohibited from placing snow and ice on public streets and alleys.

Additionally, driveways, alleys, and parking areas in the city shall be cleared so that snow and ice from such areas is not placed on the public streets.

The following information is included in the Snow and Ice Removal Plan as an outline of the duties and responsibilities of personnel coordinating the departmental response to a winter storm event. This outline is not meant to be all inclusive but will provide the basic responsibilities required to accomplish the mission of the Streets and Bridges Operations division during a winter storm event. This plan is designed to allow flexibility for the supervisor in-charge of the snow removal operation to make changes as needed to handle unforeseen conditions, events, and circumstances as they arise.

Superintendent of Streets and Bridges Operations

The Superintendent of Streets and Bridges Operations will:

1. Ensure that all equipment needed for snow and ice removal is checked and readied for operation by November 15th of each year and that all equipment remains ready for use until April 1st of the following year.

2. See that all personnel assigned to winter storm operations complete all required training annually by November 15th. Additional training may be scheduled and conducted for individuals on an as needed basis by the division.

3. Ensure that contracts for salt and calcium chloride purchase are in place by November 15th of each year and that an adequate supply of deicing materials is on hand at the Public Works Operations yard. The minimum amount of salt to be stockpiled is 300 tons and the minimum amount of calcium chloride is to be stockpiled is 4,000 gallons.

4. Notify Fleet Services and all division managers when the Snow and Ice Removal Plan is activated.

5. Brief the Public Works Director and the Transportation Operations Manager any time the Snow and Ice Removal Plan is to be activated.

The following is a list of duties for key personnel/functions assigned to the snow response team.

Shift Supervisor

The Shift Supervisor in charge of the winter storm operation will:

1. Respond in advance to any notice of an approaching winter storm event.

2. Have plows and/or spreaders available to be installed on vehicles.

3. Be closely monitoring winter weather developments.

4. Alert all necessary crews that they may be called back to work at any time, due to possible deteriorating weather conditions.

5. Notify the Superintendent of Streets and Bridges Operations on the status of all equipment and supplies.

6. When snowfall or freezing rain is occurring, the Streets Supervisor will direct crews to begin operations when, in the supervisor's opinion, one or more of the following conditions exist:

    a. The icing of streets is in progress, or is likely to occur as determined from field data which may create a hazard to vehicular traffic; or,

    b. Snowfall accumulation which exceeds two inches on streets is imminent or is occurring.

At the beginning of a snow/ice event the Shift Supervisor will:

1. Obtain an update of weather conditions and forecasts, available personnel, and status of all equipment.

2. Assign personnel and equipment to each plowing and/or spreading route.

3. Assign spotters to monitor roads throughout the city for changing conditions in the field.

4. Assign a person to arrange for meals if deemed necessary.

5. Keep the 311 Customer Call Center and the Police Division informed of the conditions and efforts in progress to clear the streets.

6. Have the bridge decks sprayed with salt brine prior to the forecasted beginning of any snow or freezing rain event if it is not forecasted to begin as a rain event.

Route Supervisors

The Route Supervisor will:

1. Obtain information on his route assignment and obtain a list of personnel assigned to that route.

2. Brief assigned personnel on their route and duties.

3. Ensure that equipment is checked, fueled, loaded, and ready to go.

4. Keep track of the location of personnel on his team at all times.

5. Brief the Streets Supervisor on the readiness of his team.

6. Contact the Storm Recovery Center with their status, when the route crew leaves the yard, and when each route location has been completed as soon as possible following completion.

7. Keep the Storm Recovery Center informed of any changes in the status of their equipment, personnel, or when the team is returning to the yard for supplies or repairs.

Team members

Team Members (Equipment Operators) will:

1. Remain at the briefing location until the briefing has been completed and they have received their vehicle and route assignments.

2. Contact the route supervisor and keep them informed as to their location and the status of their equipment.

3. Complete a thorough pre-operational check of all equipment assigned to them which must include an operational check and a safety check using the spreader operations sheet tailored to their vehicle. A sample of this sheet is found in the Appendices of this plan.

4. Report any problems noted to the route supervisor and maintenance personnel so repairs or adjustments can be made to the vehicle.

5. Follow all directions given by their route supervisor during field operations.

6. Ensure that their windshields are kept clear of snow and ice and that snow is not allowed to build up below the wiper blades.

7. Complete their full shift as assigned unless relieved by the Route or Shift Supervisor.

8. Ensure vehicles have reasonable levels of fuel at all times. Service vehicles as needed or directed by supervision.

Storm Recovery Center:

The Storm Recovery Center is the main communications and supervisory function of the snow team. It will be staffed with personnel to operate radios, communicate with snow team members and coordinate events at the order of supervision. One of the most important functions is to record events as they occur throughout the snow event. These events will be recorded in a database and kept on file for at least 5 years. This record of information may be used by Risk Management or City Attorneys in future claims or litigation.

Post Event Activities:

After any winter storm event there are several activities that Streets and Bridges Operations needs to address in order to ensure that the process runs smoothly. Listed below are items that will facilitate discussion and actions to improve the response provided by the division or the department and will provide opportunities to improve the Snow and Ice Removal Plan.

1. Managers must review the winter storm event to discuss what worked, what did not work, why issues arose, and what steps need to be taken to resolve any issues. Revisions to the Snow and Ice Removal Plan need to be made as necessary.

2. All equipment must be thoroughly checked to ensure that all maintenance and repair needs have been addressed and complete those that have not been done. This will allow the fleet to remain in a full readiness mode throughout the winter season.

3. Route lists need to be reviewed and revised as necessary.

4. A review of all the contact information for essential personnel in Public Works needs to be undertaken and contact information must be updated as necessary.

5. Stockpiles of salt and calcium chloride need to be returned to their pre-event inventory levels.

6. Any additional training needs must be identified and scheduled as soon as possible to ensure smooth operations during the next winter storm event.

7. A full cost-accounting of the winter storm event needs to be prepared for possible reporting to internal or external requestors.

Conclusion:

Preparing any winter weather response plan that can be followed to the letter or can address every issue that may arise during a winter storm event is virtually impossible. Therefore, this Snow and Ice Removal Plan is intended to provide guidelines as to how the process should unfold while maintaining the flexibility required to respond to situations as they occur. The main focuses of this plan must be to keep the transportation system as operational as possible during a winter storm event to facilitate public safety response, to limit the disruption of commerce throughout the city, and to ensure the safety of the motoring public.

Only through constant review and revision will the Snow and Ice Removal Plan become a useful tool to facilitate the response that is required of the Streets and Bridges Operations Division of Public Works. This must be an ongoing process that will result in updated editions of the plan as on an annual basis by October 31st.

Updating The Hotline

When preparing for a storm event, the best way to get information to all employees is through the Public Works Inclement Weather Hotline (726-2980).

When there is ample time prior to an event, let employees know how frequently the hotline will be updated.

The hotline is also to be used during unplanned, after-hours events to notify employees of procedures.

To update the hotline:

1. Dial 727-2755 and after the dial tone, enter 112211
2. Dial #10 and after the dial tone, enter 62980
3. Dial 1 and begin recording your message after the tone
4. When finished, press #

Dial 2 to hear the announcement
Dial 1 to re-record the announcement
Dial 3 to delete the announcement

SNOW CONDITIONS (SNOWCONS)

The SNOWCON system is used to establish guidelines for response of all snow related activities. Declaration of the SNOWCON will be at the discretion of the Streets and Bridges Superintendent and under the direction of the Public Works Director. The Streets and Bridges Superintendent uses the current conditions on the ground, weather forecasts, available equipment and manning in determining the SNOWCON. These snow conditions are only guidelines. They may be increased, decreased or altered at the discretion of management.

There are five SNOWCONS:

SNOWCON 4. This condition applies when an actual storm has occurred or when forecast predicts that a major storm is likely. Under this condition, streets and bridges are (or expected to be) impassable and the city is (or expected to be) at a basic standstill. During SNOWCON 4, the snow response team will be manned at 100%. During this period, streets and bridge clearance will be the main focus. Implementation of SNOWCON 4 normally occurs for only limited periods of time and will generally be decreased as soon as major streets and arteries are GENERALLY passable. Under this condition, parking lots and pathways may be cleared but will not take priority over streets and bridge clearing.

SNOWCON 3. This condition applies once streets and bridges are GENERALLY passable. During this condition, the manning of the snow team may be reduced to facilitate other functions of Public Works. Refuse collections may begin. Parking lot and pathway clearing may start or resume, if previously started. Personnel released from streets and bridge clearing, parking lots or pathways may be reassigned to other Public Works functions to include assisting with refuse collections.

SNOWCON 2. This condition applies once streets and bridges are MOSTLY passable. During this condition, Street and bridge clearing, refuse pickup, parking lot and pathway clearing activities are in effect. Manning of the snow team may be reduced to facilitate other functions of Public Works Personnel released from streets and bridge clearing, parking lots or pathways may be reassigned to other Public Works functions to include assisting with refuse collections.

SNOWCON 1. This condition applies once streets and bridges are FULLY passable. During this condition, the manning of the snow team may be reduced to facilitate other functions of Public Works. Under this condition, only Streets and Bridges personnel may be used when possible. Personnel released from streets and bridge clearing, parking lots or pathways may be reassigned to other Public Works functions to include assisting with refuse collections.

Preplanning for a forecasted storm – In the event where a smaller storm is forecasted, the Streets and Bridges Superintendent may declare this condition and utilize only Streets and Bridges personnel for all streets or bridge clearing activities. The Streets and Bridges Superintendent may request additional personnel when warranted.

SNOWCON 0. This condition applies when there is no forecast or expectation of snow.

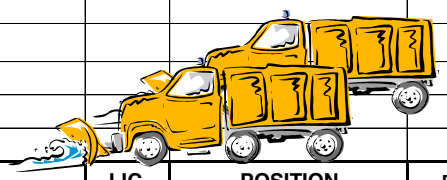
DAILY MEETINGS:

Daily meetings will be held at the Storm Recovery Center to discuss the status of snow clearing operations, manning, equipment/vehicles, safety and any other applicable subjects. A daily status report will be forwarded to upper-level management following each meeting.

The following functions should attend these meetings: Streets and Bridges, Stormwater, Traffic, Wastewater, Solid Waste, Facilities, Fleet Services and Safety.

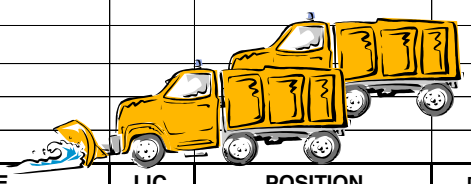
During SNOWCON 1 and SNOWCON 0, no meetings will be required.

	B	C	D	E	F	G	I	J	K
1		**SNOW REMOVAL**				**DAY SHIFT**		**date: / /**	
2		**EOC # 727-6020**						**rev. 11/24/15**	
3		**NATIONAL WEATHER 857-5520**							
4		**FLEET SERVICE**				**817-8423**			
5		**STREETS INCLEMENT WEATHER HOT LINE 726-2980**							
6		**VEHICLE/EQUIPMENT**							
7									
8		**VEHICLE #**	**Radio #**		**REQ/LIC**	**NAME**	**LIC.**	**POSITION**	**DEPT.**
9		**5054**				TYLER RICHARDSON	A	Manager	S/R
10		**5055**	113			ROBERT SMITH	A/N	SUPERVISOR	S/R
11		**5016**	102			KEITH STEWART	A/N	Project Leader	S/R
12		**Dispatch**				VICKY BYRD	LIC.	BUSINESS MANGR	S/R
13			Radio Channels						
14	**1**	**572**	Sweep		LIC	LARRY SANDERS		CONSTR INSPECTOR	S/R
15	**2**	**559**	Traffic		LIC	LESTER WILLIAMS		PROJECT LEADER	S/R
16	**3**	**1147**	Streets		LIC	RICK ROCHELLE	LIC	INSPECTOR	DM
17	**4**	**5001**	Solid Waste		LIC	EDWARD BISHOP	LIC	PEST TECH	DM
18	**5**	**5010**	Entemology		LIC	KEVIN ALEXANDER	LIC	CREW LEADER	DM
19	**6**	**5047**	Drainage		LIC	SHAYNE ZASIMOWICH	A/N	TEAM LEADER	S&R
20	**6**	**561**	Drainage		LIC	PATRICK WEAVER	LIC	CREW LEADER	DM
21	**7**								
22	**QUICK RESPONSE**	**5013**	PW1		LIC	KENNY DORSEY	LIC	CONSTR INSPECTOR	S/R
23									
24									
25	**RESERVE FOLLOW TRUCKS**								
26	**5008**								
27	**579**								
28	**5007**								
29									
30									
31	**ROUTE #**	**VEHICLE #**	**SPREADER**	**PLOW**					
32									
33	1	**5062**	V-BOX	PLOW	B	RANDALL MCMURRAY	A/N	EQ4	S&R
34	1	**5045**	V-BOX	PLOW	B	KEVIN BROWN	B	MAIN. MECH 2	T
35	1	**722**		PLOW	B	WILBERT BROWN *	B	TEAM LEADER	SW
36									
37	2	**5051**	V-BOX	PLOW	B	FRANK CHRISTIAN	B/N	EQ3	S&R
38	2	**5066**	V-BOX	PLOW	B	JOSHUA SNYDER	B	PEST TECH	DM
39	2	**1150**	V-BOX	PLOW	B	RICHARD SABURN*	B	WW TECH	WW
40									
41	3	**1151**	V-BOX	PLOW	B	JOHN MILLER	B/N	PEST TECH	DM
42	3	**1122**	CAL/SP	PLOW	B/N	HAROLD WILT	A/N	EQ4	S/R
43	3	**1152**	V-BOX	PLOW	B	WYNN SMITH*	B		SW
44									
45	4	**5050**	V-BOX	PLOW	B	CHARLES WATSON	B	MAIN. MECH. 1	T
46	4	**5067**	V-BOX	PLOW	B	PARCELL ELLIS*	B	EQ2	SW
47	4	**1149**	V-BOX	PLOW	B	WILLIAM PRITT	A	EQ4	S/R
48	4	**5006**	HARDER	PLOW	B	ROMELL SMITH*	B	EQ2	SW
49									
50	5	**1148**	HARDER	PLOW	B	RICHARD GALLADAY*	B	EQ2	DM
51	5	**5065**	V-BOX	PLOW	B	CURTIS BRASWELL	B	EQ3	DM
52	5	**RENTAL**	V-BOX	PLOW	B/N	KENNY DODSON*	B	EQ2	SW
53	5	**1121**	CAL/SP	PLOW	B/N	DUANE TAYLOR	A/N	CONSTR INSPECTOR	S/R
54									



	B	C	D	E	F	G	I	J	K
55	**NIGHT SHIFT - Cont.**								
56	6	**509**	HARDER	PLOW	B	KENNY JACKSON	B	PEST TECH	DM
57	6	**RENTAL**	V-BOX	PLOW	B	OMAR ALLEN*	B	EQ2	SW
58	6	**5063**	V-BOX	PLOW	LIC	RILEY WRIGHT *	B	TEAM LEADER	SW
59	6	**1117**	CAL/SP	PLOW	B/N	RANDELL RADER	A/N	EQ3	DM
60	6	**1105**	BACKHOE	BUCKET	LIC	JAMES SMITH	A	EQ5	DM
61	6	**731**		PLOW	B	ROLAND STANWORTH*	B/N	WW TECH	WW
62	6	**1115**	LOADER	WING	LIC	DAVID BLACKLEY	B	DRAINAGE TECH	DM
63	6	**RENTAL**	V-BOX	PLOW	B/N	CLAUDE BARBER*	B/N	EQ2	WW
64	6	**5035**	LOADER	WING	B	GARY NEWELL *	B	EQ2	SW
65	6	**1128**	CAL/SP	PLOW	B/N	SCOTT SPOHN	A/N	FINISHER 3	S/R
66									
67									
68	**QUICK RESPONSE**	**RENTAL**	V-BOX	PLOW	B	KEBVIN FOSTER	B	EQ3	DM
69	**QUICK RESPONSE**	**5005**	CAL/SP	PLOW	B/N	KEYTH ANDERSON	A/N	EQ3	DM
70	**QUICK RESPONSE**	**RENTAL**	V-BOX	PLOW	B	ANTHONY WEST*	B	EQ2	SW
71									
72		**5018**	V-BOX	PLOW	LIC	TRAVIS ELBERFIELD	LIC		DM
73					LIC	IRVING MCNIGHT	LIC		DM
74									
75		**515**	LOADER		LIC	ANTHONY SPRUILL	A/N	BRINE STATION	S/R
76					LIC			BRINE STATION	
77					LIC			BRINE STATION	
78					LIC				
79									
80	**RESERVE**								
81	**EQUIPMENT**								
82	555		CAL/SP		B/N				
83	548		PLOW		LIC.				
84	5049		PLOW		LIC.				
85	5022		BACKHOE		N/A				
86	5032		GRADER		N/A				
87	544		BACKHOE		N/A				
88									
89			**Streets**	15		**RESERVE**			
90			**Stormwater**	15					
91			**Wastewater**	4					
92			**Solid Waste**	11					
93			**Traffic**	2					
94				TOT.		TINA FARMER*			
95				47					
96									
97									
98	**NOTE: ALL POSITIONS ARE SUBJECT TO CHANGE BY SUPERVISOR**								
99									
100									

	B	C	D	E	F	G	I	J	K
1		**SNOW REMOVAL**				**NIGHT SHIFT**		**date: / /**	
2		**EOC # 727-6020**						**rev. 11/24/15**	
3		**NATIONAL WEATHER 857-5520**							
4		**FLEET SERVICE**				**817-8423**			
5		**STREETS INCLEMENT WEATHER HOT LINE 726-2980**							
6		**VEHICLE/EQUIPMENT**							
7									
8		**VEHICLE #**	**Radio #**		**REQ/LIC**	**NAME**	**LIC.**	**POSITION**	**DEPT.**
9		**5054**					A/N	MANAGER	S/R
10		**5017**				SPARKMON, JIMMIE	A/N	SR. INSPECTOR	S/R
11		**Dispatch**				Cynethia Deloatch	LIC.	STAFF TECH.1	S/R
12									
13									
14	1	**572**			LIC	ROBERT TWEETY	LIC	INSPECTOR	DM
15	2	**559**			LIC	JIMMY WILLIAMS	B	TEAM LEADER	DM
16	3	**5007**			LIC	BRIAN WILSON	B	TRANS. ENGR. TECH	T
17	4	**579**			LIC	SANDERS DAVID	A/N	Team leader	S/R
18	5	**5013**			LIC	MICHAEL HARGRAVE	LIC	INSPECTOR	DM
19	6	**5001**			LIC	LEO BLADES	B	TRANS. ENGR. TECH	T
20	6	**5010**			LIC	RODNEY HANKINS	A/N	INSPECTOR	S&R
21	FLOAT	**5008**			LIC	TIM EDMUNDSON	A	INSPECTOR	S/R
22									
23									
24									
25									
26	**YARD**	**7820**							
27		**VEHICLE #**	**PLOW**	**SPREADER**					
28									
29									
30	1	**5045**	V-BOX	PLOW	B	BIVINS, FRANK	A	STREETS	S&R
31	1	**5065**	V-BOX	PLOW	B				
32	1	**5062**	V-BOX	PLOW	B	JEROME PEIRCE	B	WW TECH.	WW
33									
34	2	**5051**	V-BOX	PLOW	B	SHERRI LAWSON *	B	EQ2	SW
35	2	**RENTAL**	V-BOX	PLOW	B	GREG ATKINSON	B	PEST TECH	DM
36	2	**1151**	V-BOX	PLOW	B	PAUL ANGAD*	B	SR. STATION MECH.	WW
37									
38	3	**5063**	V-BOX	PLOW	B	THOMAS QUINN	A/N	EQ5	S/R
39	3	**RENTAL**	V-BOX	PLOW	B/N	JEFF WINGO	A/N	EQ3	DM
40	3	**RENTAL**	V-BOX	PLOW	B	EDWARD RACICOT	B	EQ2	SW
41									
42	4	**5050**	V-BOX	PLOW	B	THOMAS CAMPBELL			DM
43	4	**5006**	HARDER	PLOW	B	LARRY HAIRSTON	B	EQ2	DM
44	4	**RENTAL**	V-BOX	PLOW	B	VICTOR HARDAMON	A	EQ2	SW
45	4	**1150**	V-BOX	PLOW	B	TIM DICKENS *	A	EQ2	SW
46									
47	5	**RENTAL**	V-BOX	PLOW	B	JASON MCCLAIN	A	EQ2	SW
48	5	**5066**	V-BOX	PLOW	B	RODNEY CAMPBELL	B	EQ2	DM
49	5	**1121**	CAL/SP	PLOW	B/N	LANE, RICK	A/N	EQ-5	S&R
50	5	**1152**	V-BOX	PLOW	B	DONNIE HOUSER *	B	EQ2	SW
51									



	B	C	D	E	F	G	I	J	K
52	**DAY SHIFT - Cont.**								
53	6	**509**	HARDER	PLOW	B	DANIEL DUNSEATH	B	EQ2	DM
54	6	**1128**	CAL/SP	PLOW	B/N	HARRIS, LARRY	A/N	EQ-4	S/R
55	6	**1148**	V-BOX	PLOW	B	CICEL GIVENS	B	EQ2	SW
56	6	**1122**	CAL/SP	PLOW	B/N	JACKSON, DAVID	A/N	EQ-4	S/R
57	6	**1149**	V-BOX	PLOW	B/N	DARIUS SLEDGE	A/N	EQ3	DM
58	6	**1115**	LOADER	WING	LIC	LLOYD WOOTEN	A	EQ4	DM
59	6	**5035**	LOADER	WING	LIC	KEVIN JAMESON	A	TEAM LEADER	DM
60	6	**544**	BACKHOE		LIC				
61	6	**5067**	V-BOX	PLOW	B				
62	6	**5049**		PLOW	LIC				
63									
64									
65	FLOAT	**731**		PLOW	B	MICHAEL WALDRON*	A	SR. STATION MECH	WW
66	FLOAT	**5005**	CAL/SP	PLOW	B/N	FUNG-FOOK, PHIL	A/N	FINISHER 3	S/R
67	FLOAT	**722**		PLOW	B	MICHAEL THORSON	A	EQ5	DM
68	FLOAT	**555**	CAL/SP		B	QUINCY JOHNSON	A	EQ2	SW
69									
70									
71		**5018**	V-BOX	PLOW	LIC	MICHAEL WHITTEMORE	LIC	EQ4	S/R
72									
73									
74		**515**	LOADER		LIC	JOSEPH WAGNER	LIC	BRINE STATION	S/R
75					LIC	DARRELL LAWRENCE	LIC	BRINE STATION	DM
76					LIC	ROBBIE PRICE	B	BRINE STATION	T
77									
78									
79	EQ.	**5022**							
80	**T/A**		**Streets**						
81	**1105**								
82	**5032**				B				DM
83	**S/A**		**Streets**	13	B				DM
84			**Stormwater**	21					
85			**Wastewater**	7					
86			**Solid Waste**	12	B	CHARLES BRANCH	A	EQ2	SW
87			**Traffic**	3	B	ROBERT CARROLS	B	TEAM LEADER(10hrs)	SW
88	BRINE S/A		**REQ/LIC**		B	RICO JORDAN	B	EQ2	SW
89	555			TOT.	B				SW
90	1117			56	B				SW
91									
92	1TON								
93	548								
94				DISPATCH	B		B	RELIABILITY TECH	WW
95					B	RANDAL EDWARDS	LIC		WW
96					B	SCOTT ROBERTS	LIC		WW
97					B	JAMES MACLIN*	A	RELIABILITY TECH	WW
98									
99	**NOTE: ALL POSITIONS ARE SUBJECT TO CHANGE BY SUPERVISOR**								
100									
101									
102	**team one**		**ch. 13**		call all route segments in on PW dispatch				
103	**team two**		**ch. 10**						
104	**team three**		**ch. 8**						
105	**team four**		**ch. 6**						
106	**team five**		**ch. 5**						
107	**team six**		**ch. 4**						
108	**RRT**		**ch. 2**						
109									
110									

STREETS SNOW EQUIPMENT FY15

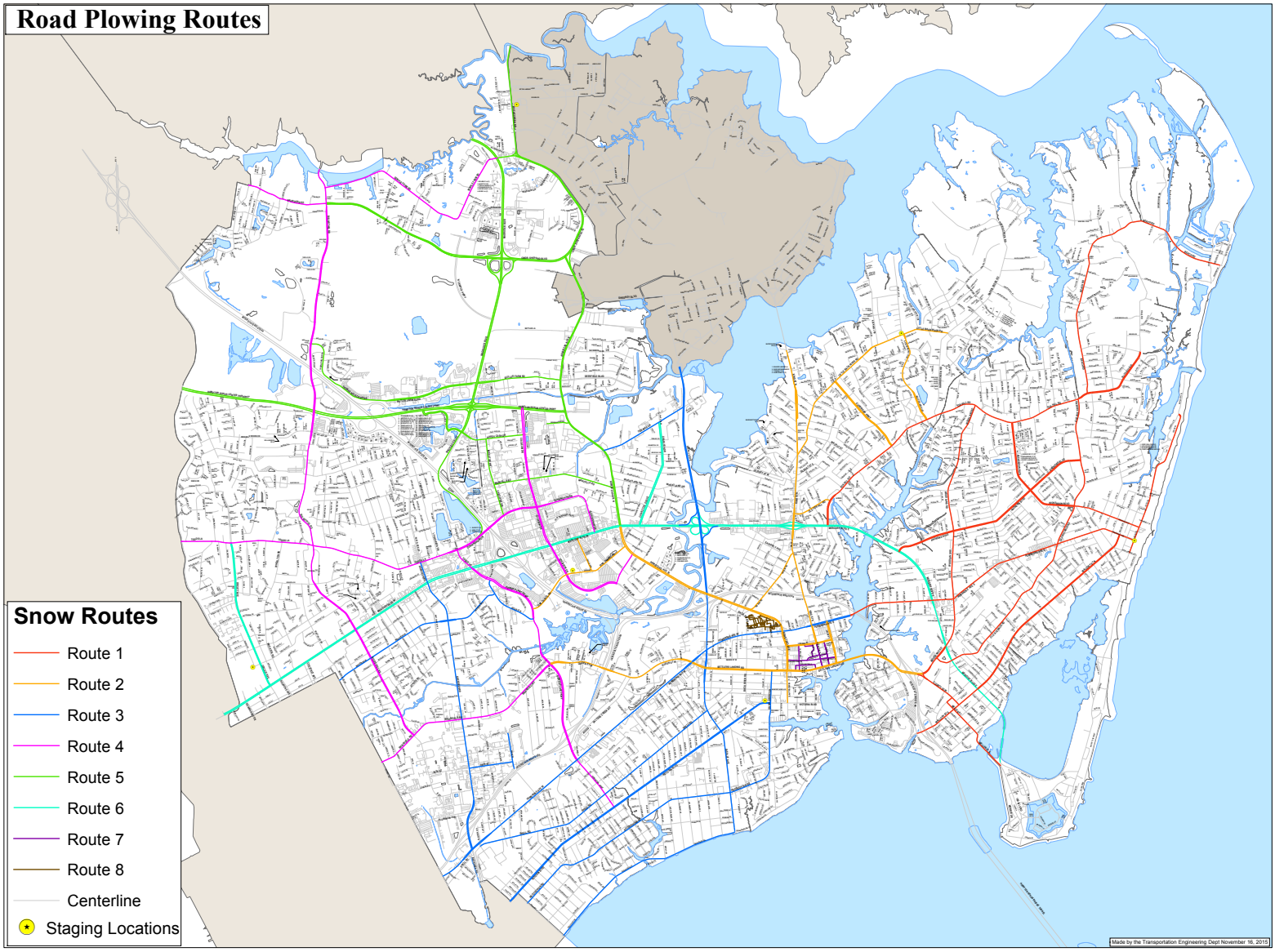
Trucks, Plows, & Spreaders

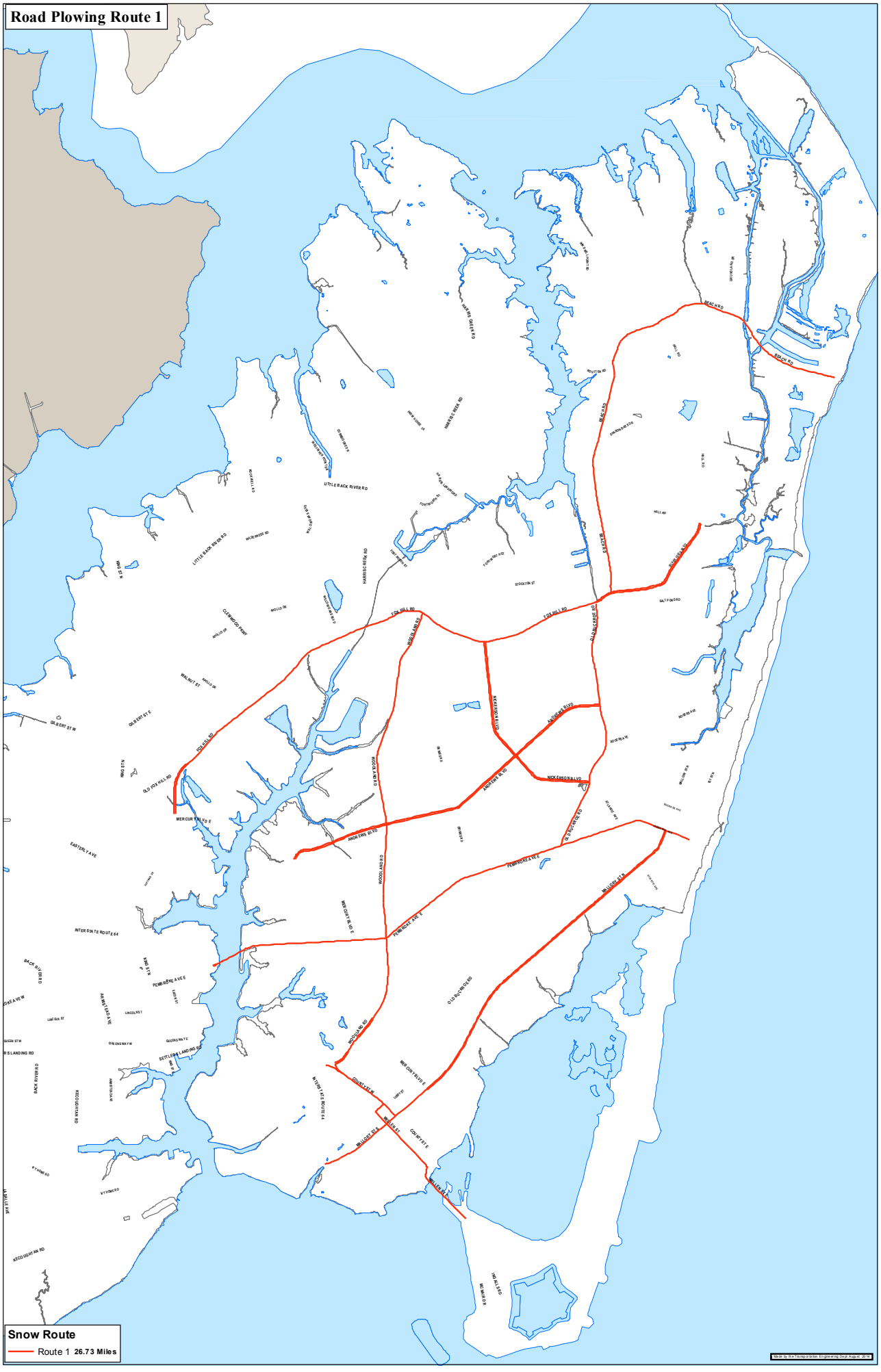
Truck	Plow	Spreader	LICENSE CLASS	ROUTE
TANDEMS				
509	**Plow**	harder	B	**6**
5050	**Plow**	hopper	B	**4**
5051	**Plow**	hopper	B	**2**
570	**Plow**	harder	B	**5**
5006	**Plow**	harder	B	**4**
711	**Plow**	harder	B	**5**
1121	**Plow**	BRINE UNIT	B/N	**5**
1122	**Plow**	BRINE UNIT	B/N	**6**
5062	**Plow**	SALT HOPPER	B	
5063	**Plow**	SALT HOPPER	B	
1148	**Plow**	SALT HOPPER	B	
1149	**Plow**	SALT HOPPER	B	
1150	**Plow**	SALT HOPPER	B	
1128	**Plow**	BRINE UNIT	B/N	**6**
SINGLE AXLES				
554	**Plow**	9503	B	**1**
132	**Plow**	C5019	B	**3**
722	**Plow**		B	**4**
111	**Plow**		B	**FLOAT**
731	**Plow**		B	**FLOAT**
5005	**Plow**	BRINE UNIT	B/N	**FLOAT**
555	**NO PLOW**	BRINE UNIT	B/N	**FLOAT**
1117	**Plow**	BRINE UNIT	B/N	
5045	**Plow**	5045	B	

Truck #	Rental Trucks			
3038	Plow	4380	B	
3142	Plow	4385	B	
3592	Plow	4386	B	
3037	Plow	4384	B	
3036	Plow	4383	B	
3591	Plow	4389	B	
5722	Plow	0025	B	
3039	Plow	4382	B	
3143	Plow	4387	B	
3868	Plow	4388	B	
SMALL DUMPS				
5018	BOSS Plow	9501	R	FLOAT
510	BOSS Plow		R	FLOAT
548	BOSS Plow		R	FLOAT
5049	Western Plow	Small Brine	R	FLOAT
LOADERS				
515	Wing Plows	N/A		
5035	Wing Plows	N/A		
1115	Bucket Loader	N/A		
BACKHOES				
544	farm equipment	N/A		
5022	farm equipment	N/A		

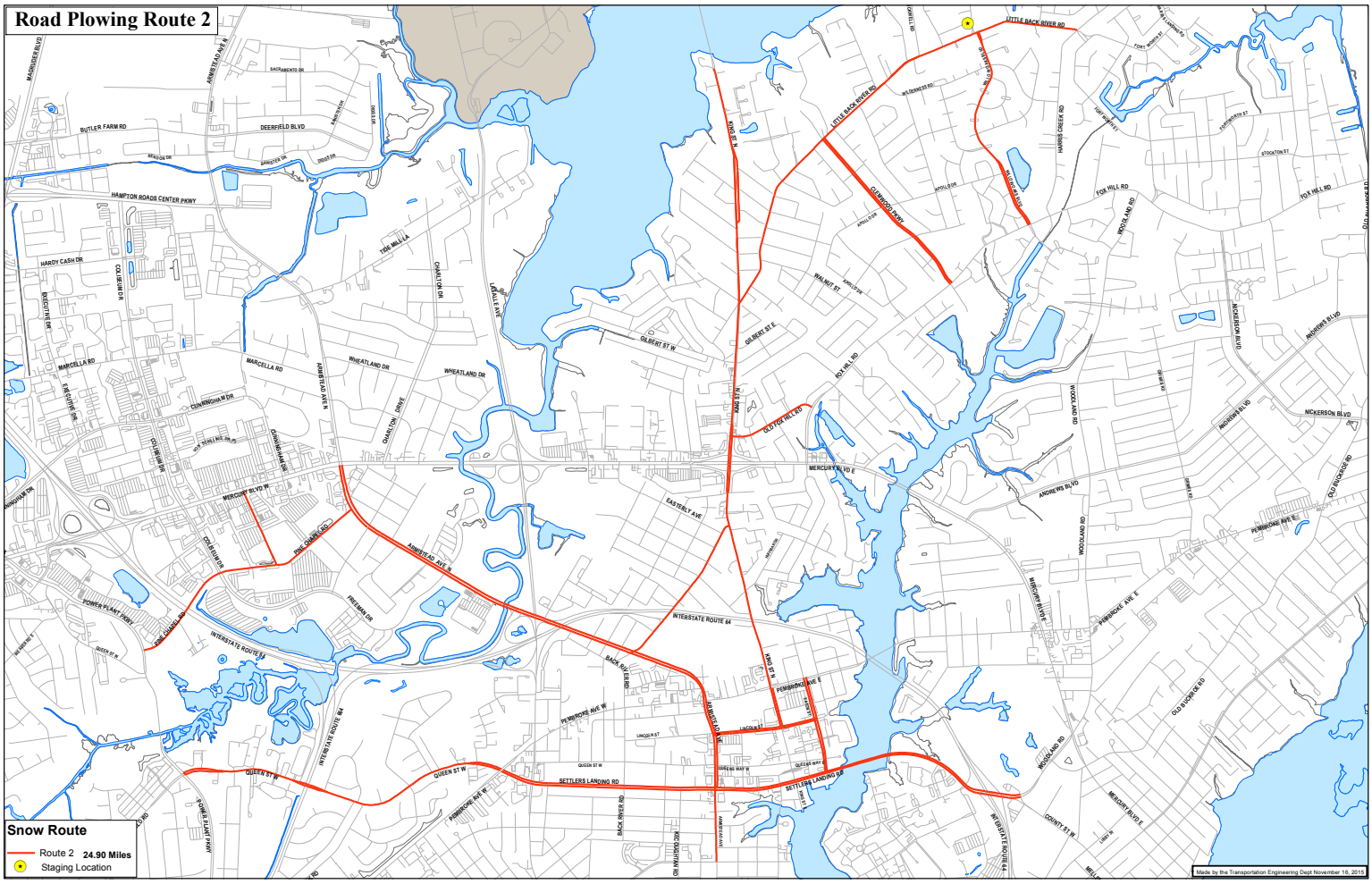
NOTE: OPERATOS MUST BE OVER 25 YRS. OLD TO OPERATE RENTALS

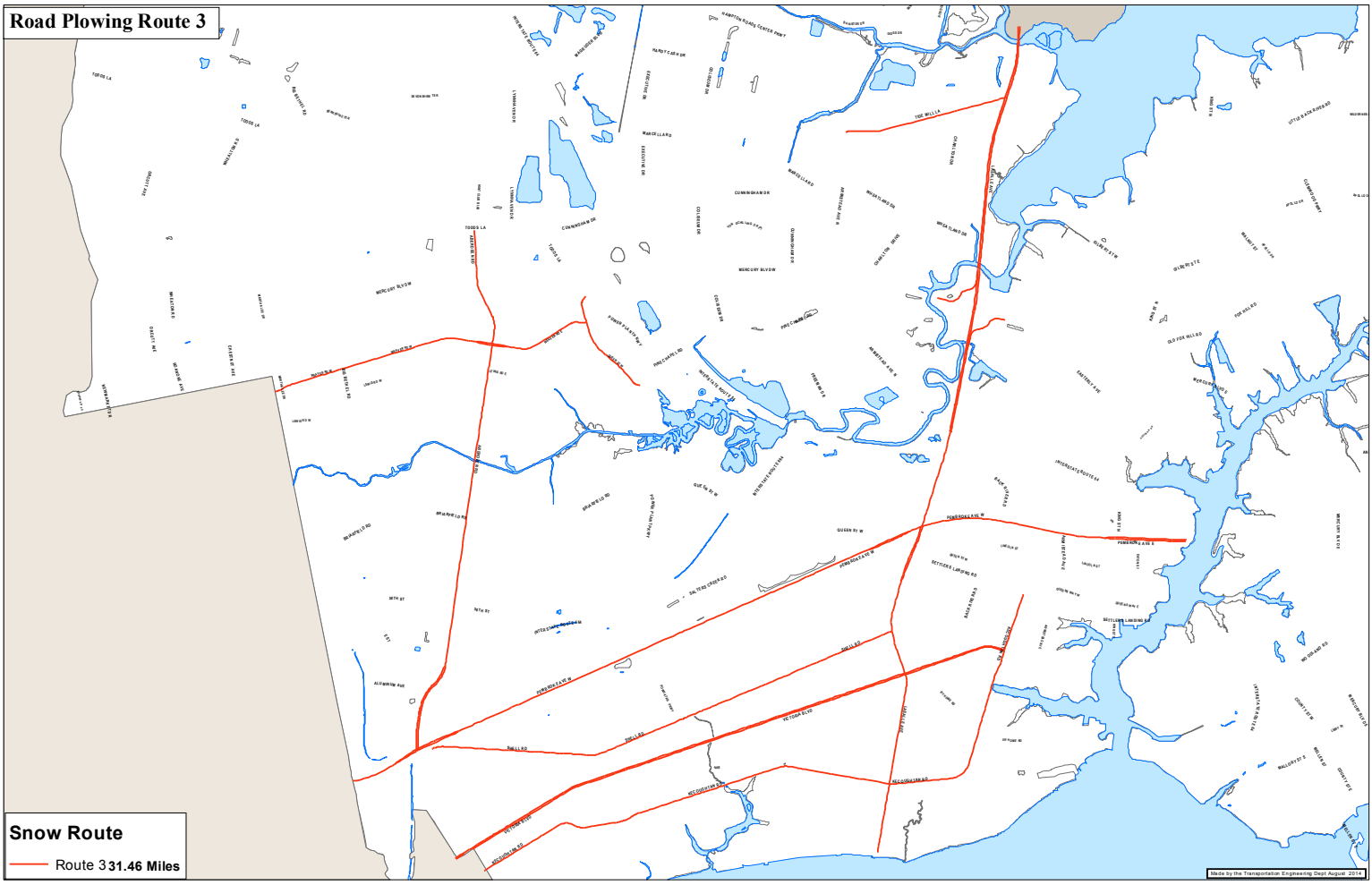
Road Plowing Routes



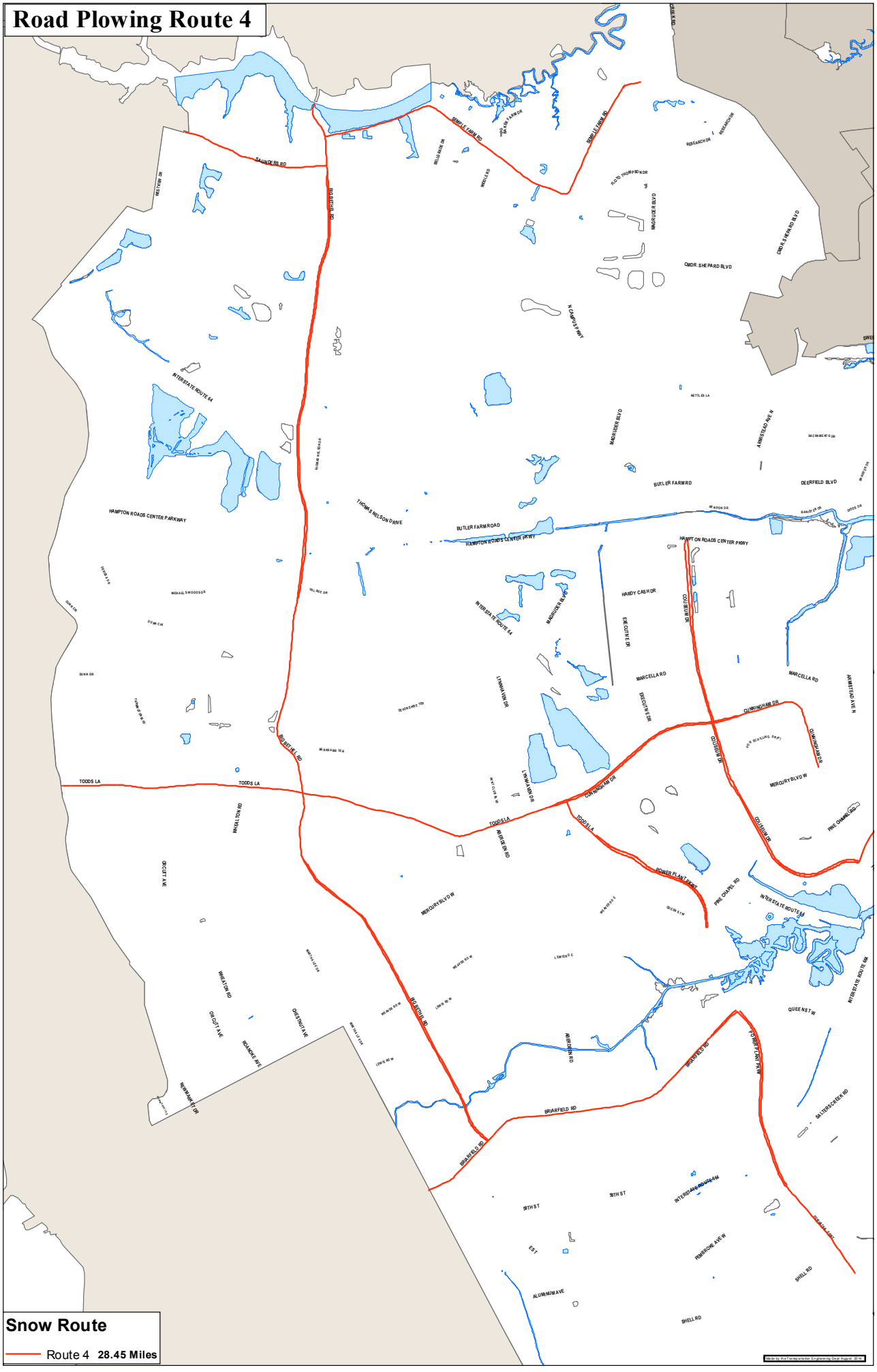

Road Plowing Route 1
Snow Route
Route 1 26.73 Miles
Made by the Transportation Engineering Dept August 2014

Road Plowing Route 2



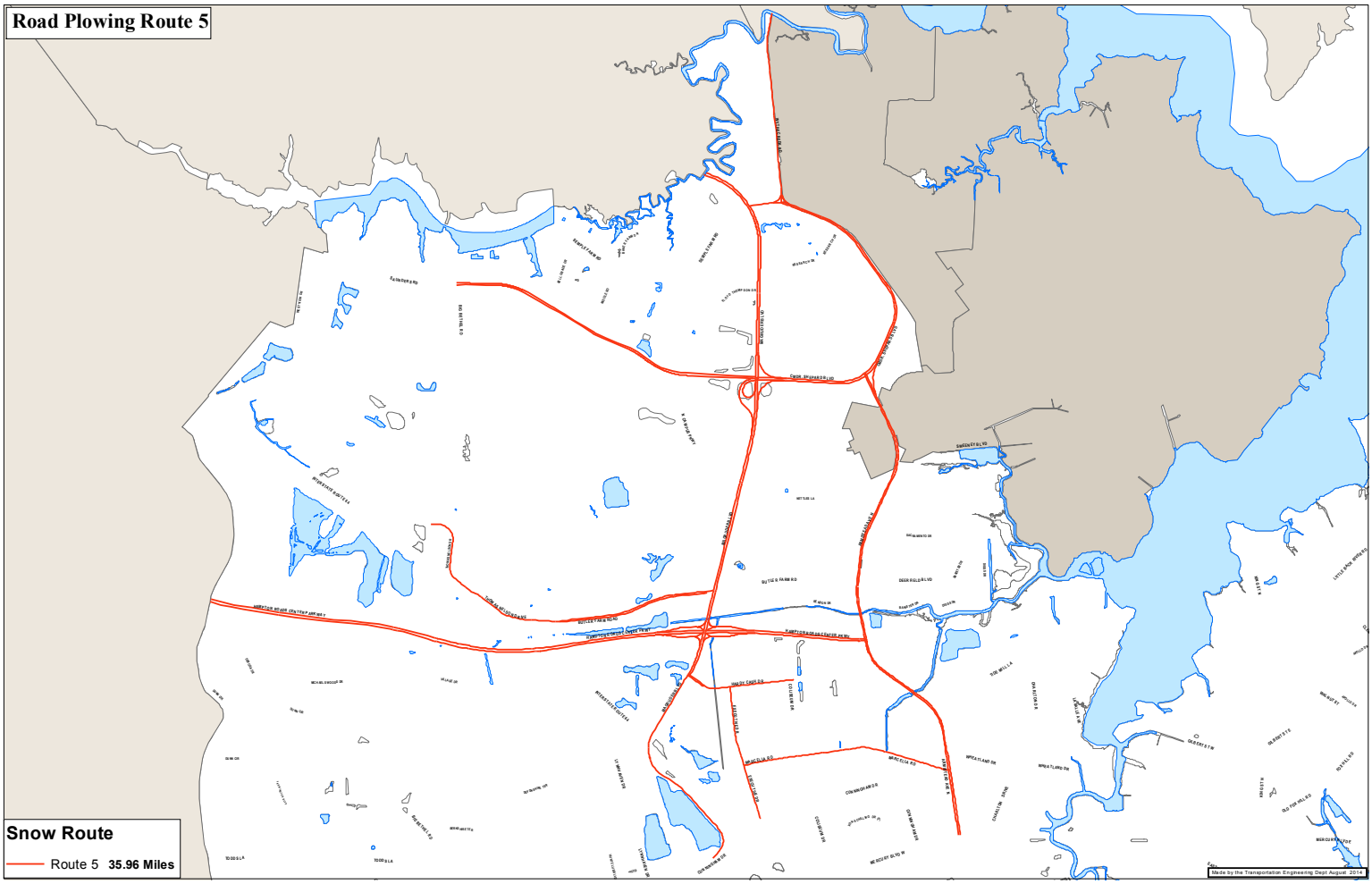

Road Plowing Route 3
Snow Route
Route 3 31.46 Miles
Made by the Transportation Engineering Dept August 2014

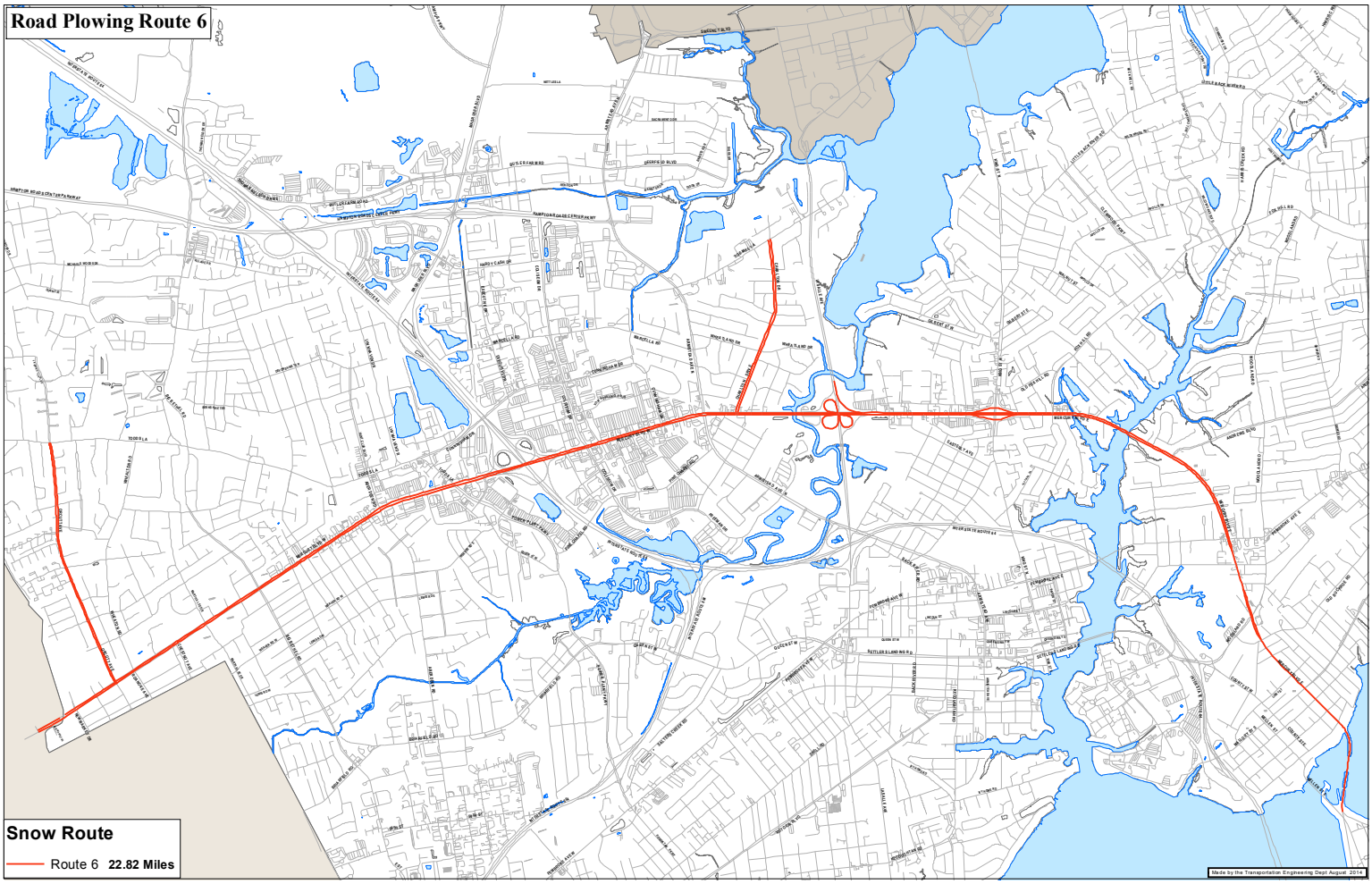
Road Plowing Route 4

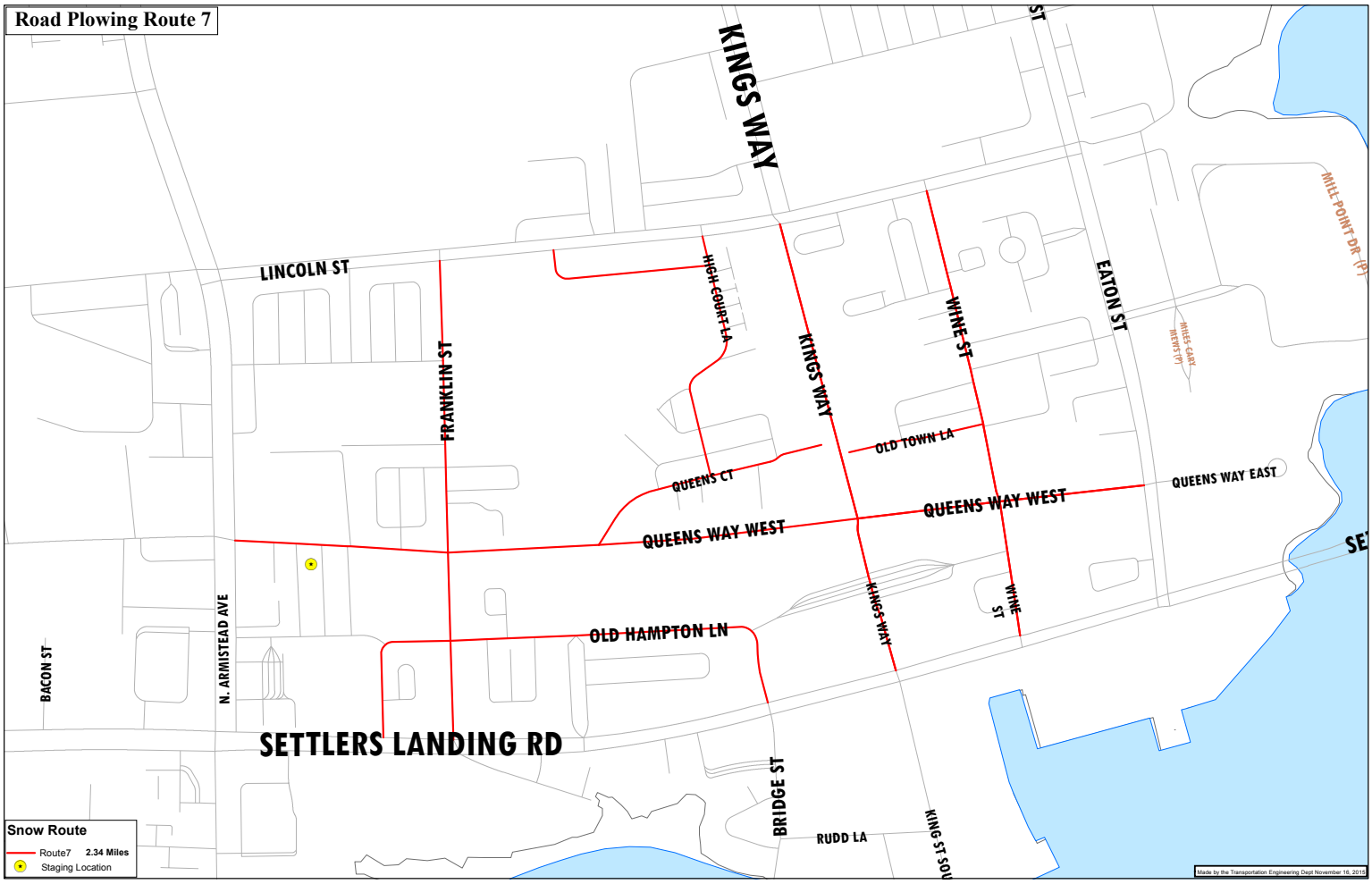


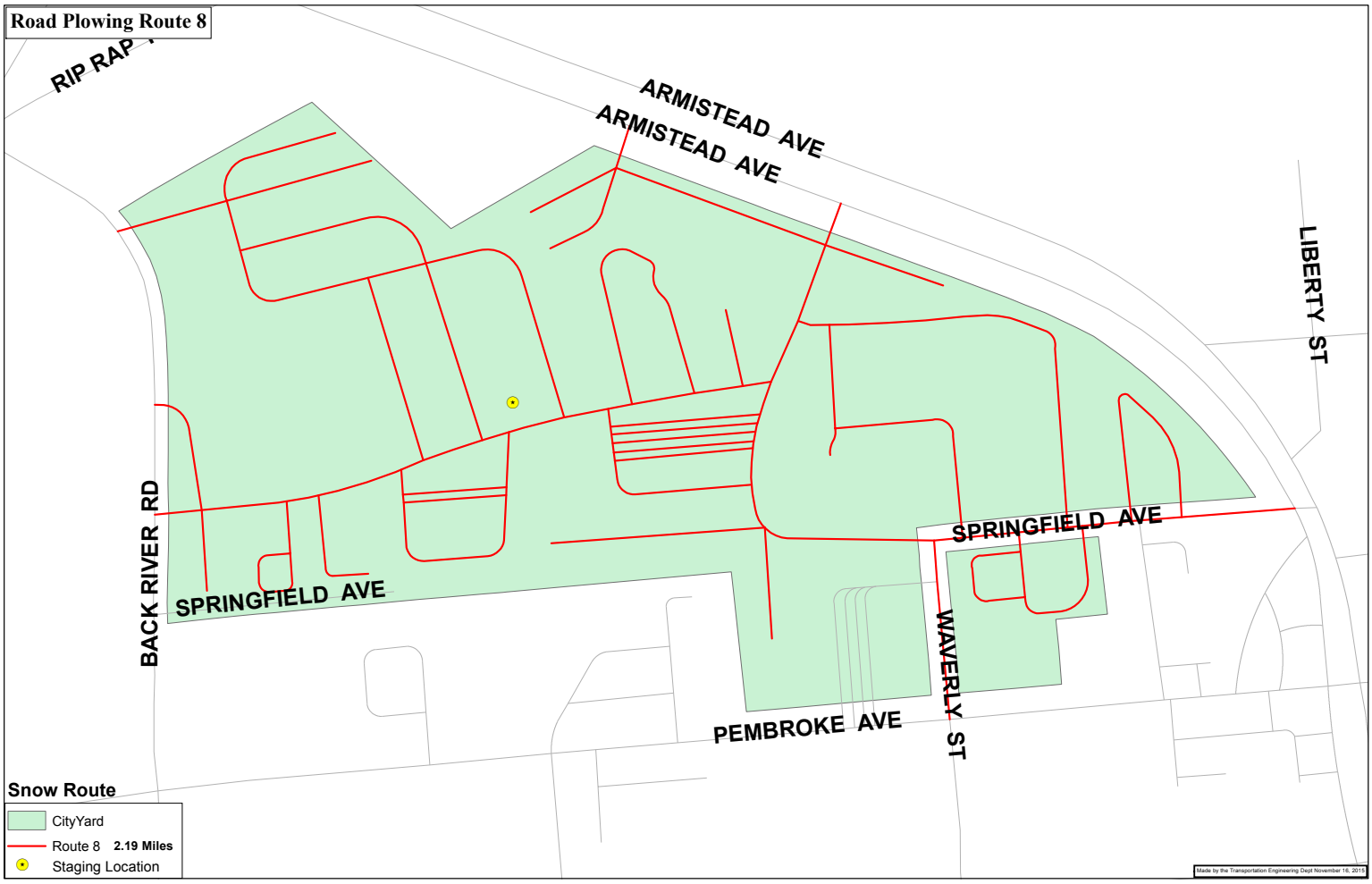
Snow Route

Route 4 **28.45 Miles**

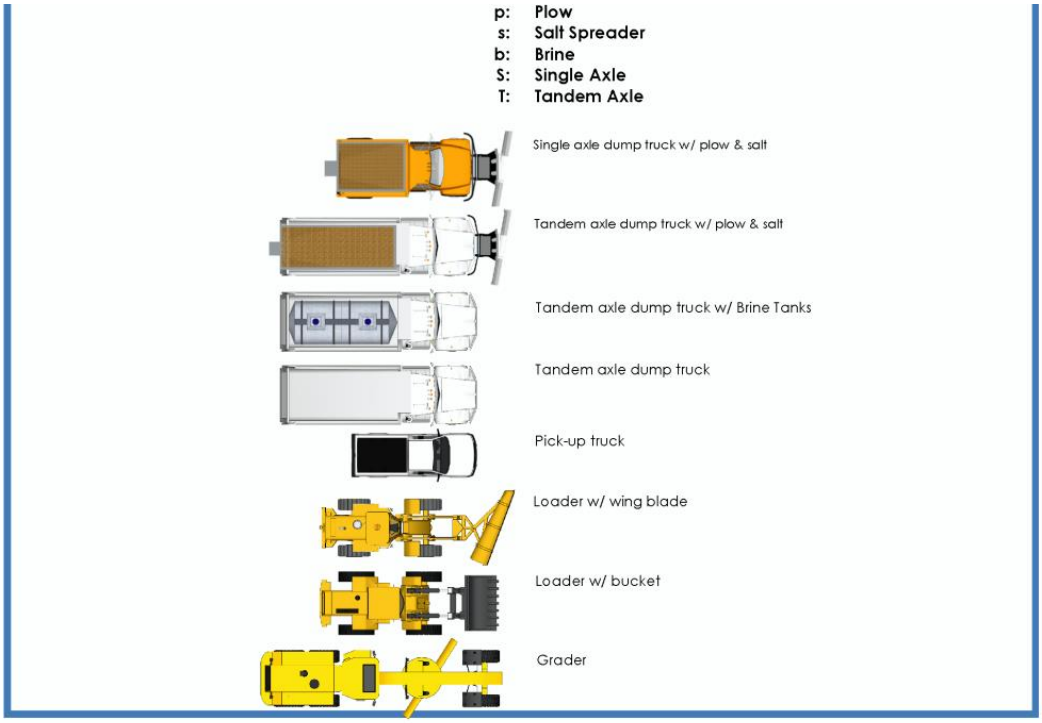

Road Plowing Route 5
Snow Route
Route 5 35.96 Miles
Made by the Transportation Engineering Dept August 2014


Road Plowing Route 6
Snow Route
Route 6 22.82 Miles
Made by the Transportation Engineering Dept August 2014


Road Plowing Route 7
KINGS WAY
LINCOLN ST
HIGH COURT LA
FRANKLIN ST
KINGS WAY
WINE ST
EATON ST
MILL POINT DR (T)
REES GARY RENT (T)
OLD TOWN LA
QUEENS CT
QUEENS WAY WEST
QUEENS WAY EAST
QUEENS WAY WEST
BACON ST
N. ARMISTEAD AVE
OLD HAMPTON LN
KINGS WAY
WINE ST
SETTLERS LANDING RD
BRIDGE ST
RUDD LA
KING ST SOU
Snow Route
Route7 2.34 Miles
Staging Location
Made by the Transportation Engineering Dept November 16, 2015

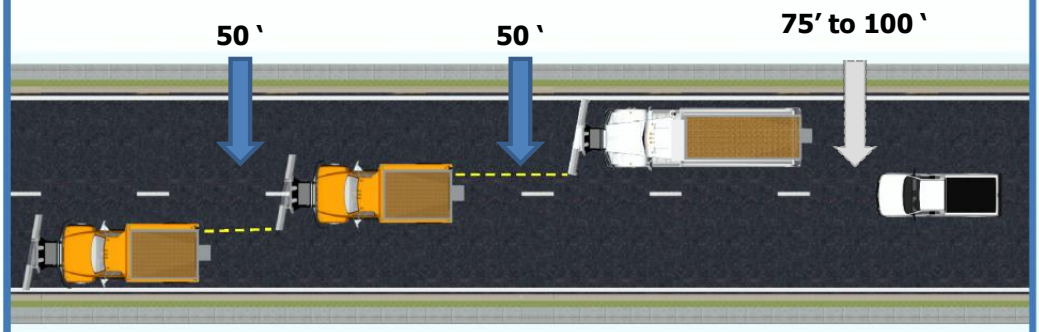

Road Plowing Route 8
RIP RAP
ARMISTEAD AVE
ARMISTEAD AVE
LIBERTY ST
BACK RIVER RD
SPRINGFIELD AVE
SPRINGFIELD AVE
WAVERLY ST
PEMBROKE AVE
Snow Route
CityYard
Route 8 2.19 Miles
Staging Location
Made by the Transportation Engineering Dept November 16, 2015

Equipment Set-Up

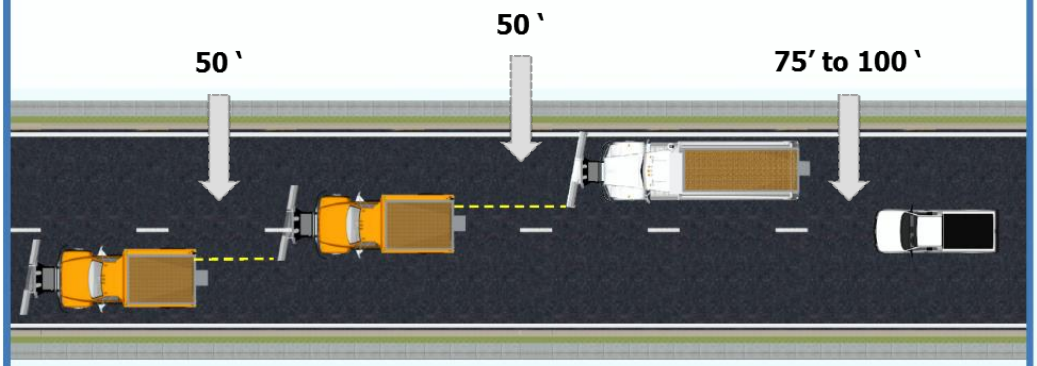


Graphics by K. Scott Roberts - Wastewater

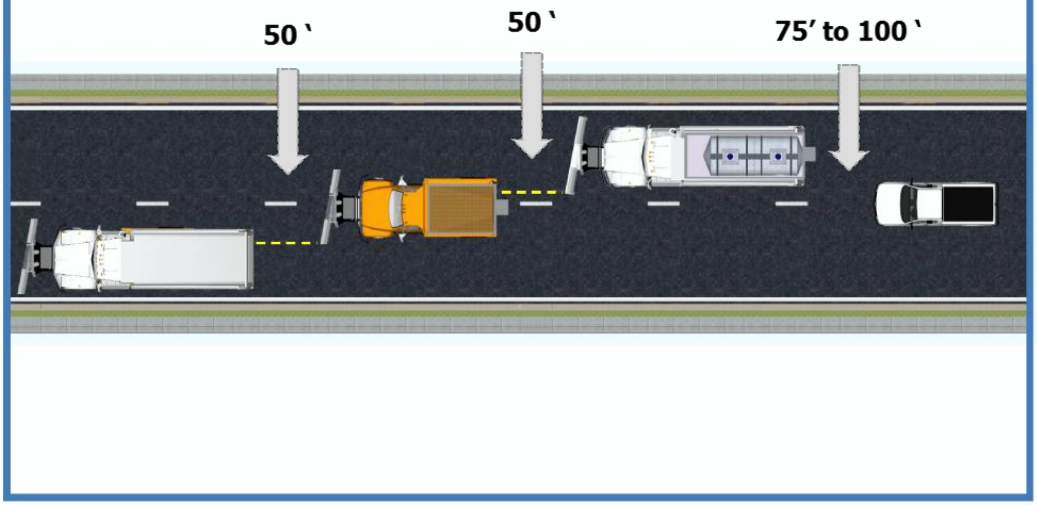
Set-Up #1



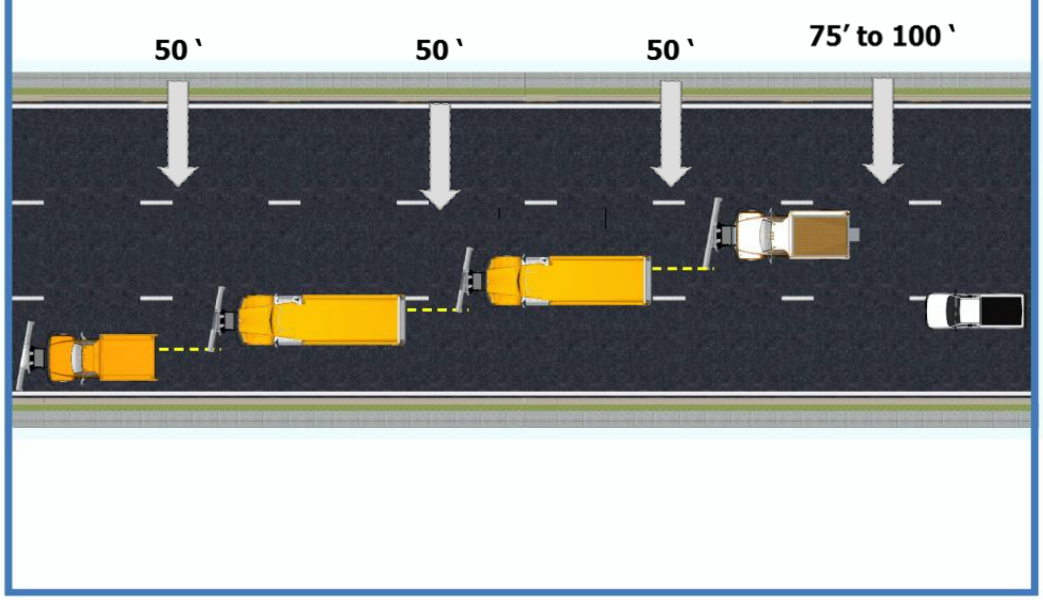
Set-Up #2



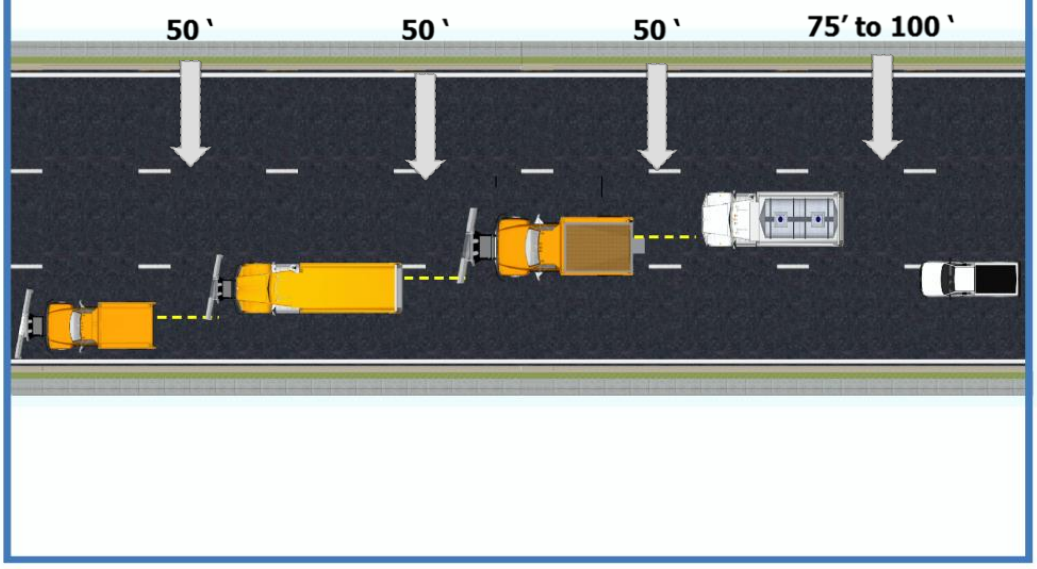
Set-Up #3



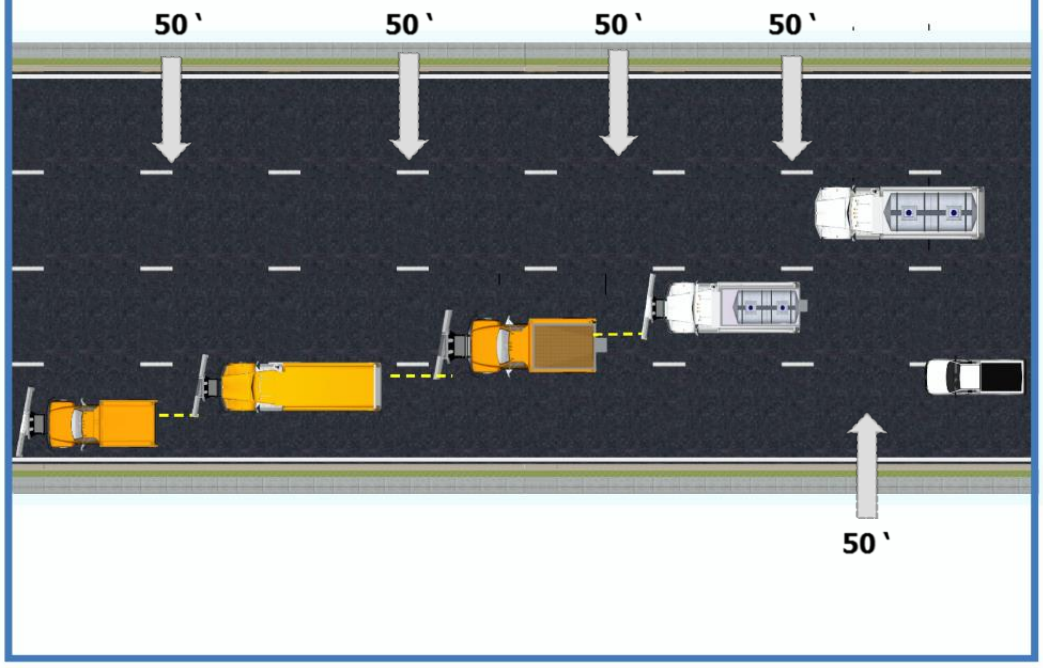
Set-Up #4



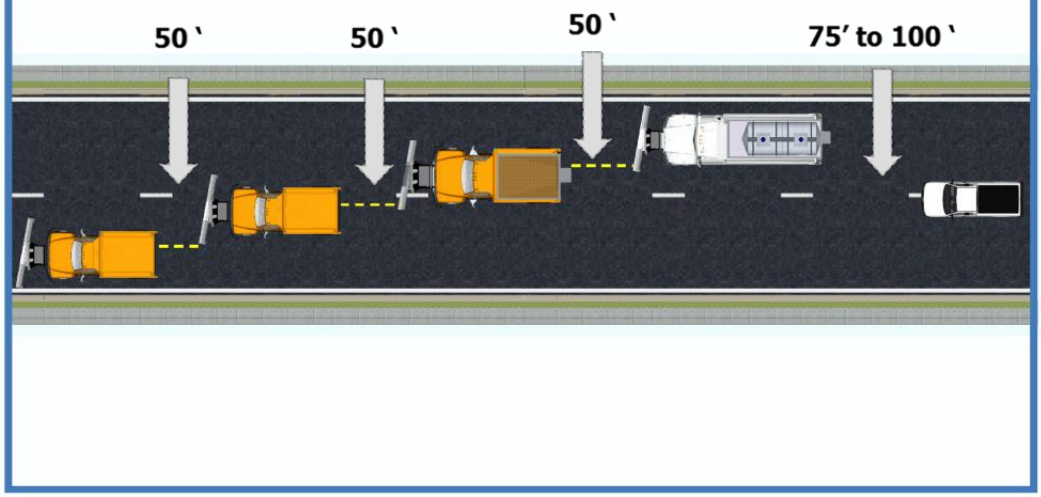
Set-Up #5



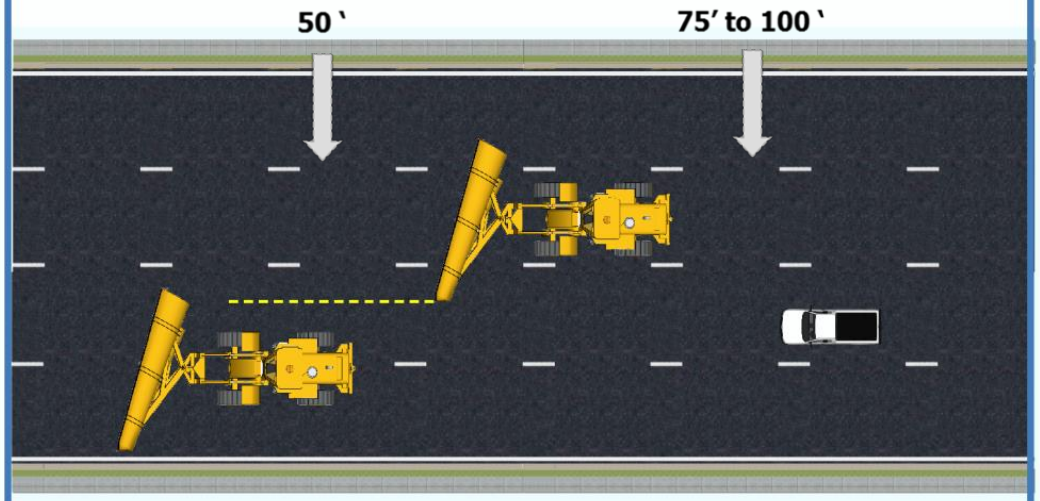
Set-Up #6



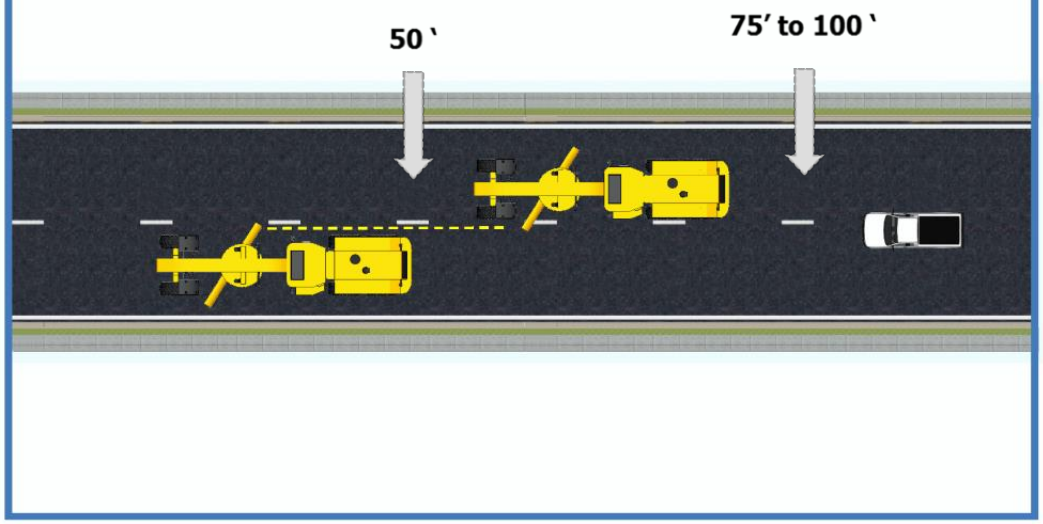
Set-Up #7



Set- Up #8



Set – Up #9



Building Sidewalk / Pathway Schedule

	BUILDING	ADDRESS	PRIORITY
1	CIRCUIT COURT	101 KINGSWAY	1
2	CITY HALL	22 LINCOLN STREET	1
3	FAC. MGMT. ANNEX	231 SPRINGFIELD-DOG POUND	1
4	FAC. MGMT. BLDG	231 SPRINGFIELD AVENUE	1
5	FACILITIES HVAC SHOP	314 W PEMBROKE AVENUE	1
6	GDC	236 N KING STREET	1
7	HCSC	1320 LASALLE AVENUE	1
8	NEW JDR COURTHOUSE	220 N KING STREET	1
9	PUBLIC SAFETY	40 LINCOLN STREET	1
10	WAREHOUSE (FACILITIES)	550 N BACK RIVER ROAD	1
11	RUPPERT SARGEANT	1 FRANKLIN ST	1
12	KENNY WALLACE RESOURCE CENTER	2315 VICTORIA BLVD	1
13	CARMEL CENTER	136 N KINGSWAY	2
14	FORT MONROE - COMMUNITY CENTER	STILLWELL LN	2
15	FORT MONROE - PUBLIC SAFETY	STILLWELL LN	2
16	HAMPTON DRUG COURT	1320 LASALLE AVENUE	2
17	HEALTH DEPARTMENT	3130 VICTROIA BLVD	2
18	MAIN LIBRARY	4207 VICTORIA BLVD	2
19	NORTH PHOEBUS COMMUNITY CENTER	249 W CHAMBERLIN AVENUE	2
20	NORTHAMPTON COMMUNITY CENTER	1435 A TODDS LANE	2
21	NORTHAMPTON LIBRARY	936 BIG BETHEL ROAD	2
22	OLD HAMPTON COMMUNITY CENTER	201 LINCOLN STREET	2
23	PHOEBUS LIBRARY	1 S MALLORY STREET	2
24	PROBATION BULDING	35 WINE STREET	2
25	WESTHAMPTON COMMUNITY CENTER	1638 BRAIRFIELD ROAD	2
26	WILLOW OAKS LIBRARY	227 FOX HILL ROAD	2
27	Y.H. THOMAS	1300 THOMAS STREET	2
28	AIR POWER PARK	413 W MERCURY STREET	3
29	BASSETTE BLDG	26 WINE STREET	3
30	CHANNEL 47	418 W MERCURY BLVD	3
31	CHARLES TAYLOR ARTS CENTER	4205 VICTORIA BLVD	3
32	HARBOR CENTER GARAGE	2 EATON STREET	3
33	HISTORY MUSEUM/VISITORS' CTR	120 OLD HAMPTON LANE	3
34	LITTLE ENGLAND COMMUNITY CENTER	3922 KECOUGHTAN RD	3
35	NEW AMERICAN THEATRE	125 E MELLEN STREET	3
36	NEW TOWN LEARNING CENTER	4315 KECOUGHTAN ROAD	3
37	SENIOR CITIZEN CENTER	3501 KECOUGHTAN ROAD	3
38	SETTLER'S LANDING GARAGE	555 SETTLER'S LANDING ROAD	3
39	TEEN CENTER	300 BUTLER FARM ROAD	3
40	VISITORS' CENTER (MARITIME CENTER)	710 SETTLERS LANDING	3
41	WALKWAY FROM GEORGE WASHINGTON BR	SETTLERS LANDING	3

PRIORITY 1
PRIORITY 2
PRIORITY 3

CONTACT INFORMATION
Micah Garner 757-726-2977
Michael Newberry 757-726-2996

SNOW REMOVAL SITES FOR WASTEWATER

Revised 10/21/15

The emergency shelters listed below may become top priority!! Check with supervisor before proceeding to your assigned areas!

SHELTER	4315 KECOUGHTAN ROAD	ACROSS FROM THE MARINA
SHELTER	3501 KECOUGHTAN ROAD	CORNER OF KECOUGHTAN &CHEROKEE
SHELTER	1435 TODDS LANE	BACK OF SCHOOL ON LEFT SIDE

BUILDING	ADDRESS	WHO CLEARS ENTRANCES	PRIORITY
CITY HALL	22 LINCOLN STREET	Crew # 3	1
PUBLIC SAFETY	40 LINCOLN STREET	Crew # 2	2
CARMEL CENTER (2 lots)	136 N KINGSWAY	Crew # 4	3
COURT HOUSE (2 lots)	KING STREET	Crew # 5	4
RUPERT LEON SARGENT BLDG (3 lots)	1 FRANKLIN STREET	Crew # 1	5
HEALTH DEPARTMENT (2 lots)	3130 VICTORIA BLVD	Crew # 3	6
FORT MONROE - PUBLIC SAFETY (2 lots)	STILLWELL LN	Crew # 1	7
HAMPTON SOCIAL SERVICES	1320 LASALLE AVENUE	Crew # 2	8
Y.H. THOMAS (2 lots)	1300 THOMAS STREET	Crew # 4	9
PW OPERATIONS (4 lots)	419 N ARMISTEAD AVENUE	Crew # 5	10
LOT ARMISTEAD & LINCOLN (2 lots)	ARMISTEAD & LINCOLN ST	Crew # 2	11
AIR & SPACE MUSEUM	600 SETTLERS LANDING	Crew # 5	12
OLD HAMPTON COMMUNITY CENTER (2 lots)	201 LINCOLN STREET	Crew # 4	13
MAIN LIBRARY (2 lots)	4207 VICTORIA BLVD	Crew # 3	14
PHOEBUS LIBRARY	1 S MALLORY STREET	Crew # 1	15
NORTHAMPTON LIBRARY	936 BIG BETHEL ROAD	Crew # 4	16
WILLOW OAKS LIBRARY	227 FOX HILL ROAD	Crew # 5	17
COMMUNITY CENTER	4315 KECOUGHTAN ROAD	Crew # 3	18
COMMUNITY CENTER	3501 KECOUGHTAN ROAD	Crew # 3	19

ADDITIONAL LOCATIONS (LOW PRIORITY)

AMERICAN THEATER	125 E. MELLON STREET	
WINE STREET PARKING LOT -2 LOTS	35 WINE STREET	BY LA BODEGA RESTERANT
BAPTIST CHURCH (ALL)	229 N. KING STREET	CORNER OF KING & LINCOLN
311 PARKING LOT	BY JAIL & CEMENTARY	CORNER OF LINCOLN & HIGH COURT
PARKING LOT		CORNER OF WINE & SETTLERS LANDING

SNOW REMOVAL PARKING LOTS

WASTEWATER SUPERIDENTANT / C - 810-4397
WASTEWATER CONSTRUCTION MANAGER / C - 876-4328
WASTEWATER PUMPSTATION MANAGER / C - 876-7709

Revised 11/30/15

	VEHICLE #	NAME	LIC.	POSITION	DEPT.
	7820 / LOADER / WING PLOW	KEVIN CARRIER	A	EQ-5	Wastewater Operations
	739 / FOLLOW TRUCK	DANIEL TAYLOR	A	EQ 2	Wastewater Operations
	876 / LOADER	MILO	A	PROJECT LEADER	Wastewater Operations
	7821 / FOLLOW TRUCK	RANDAL EDWARDS	REG	RELIABILITY TECH	Wastewater Operations
	7814 / BACKHOE	IAN MANN	A	EQ-5	Wastewater Operations
	736 / FOLLOW TRUCK	DONTAVIS BROWN	REG	WW-TECH TRAINEE	Wastewater Operations
	730 / BACKHOE	JULIAN NEWMAN	B	WW-TECH TRAINEE	Wastewater Operations
	713 FOLLOW TRUCK	MARY DANIELS	A	PROJECT LEADER	Wastewater Operations
	702 / BACKHOE	DANIEL ROBERTS	B	WW-TECH TRAINEE	Wastewater Operations
	7824 / FOLLOW TRUCK	ROBERT SNEED	A	EQ-5	Wastewater Operations
	738 TRUCK & 7166 TRAILER	JAY PARKINSON	B	WW- RELIBALITY TECH	Wastewater Operations
	SNOW BLOWERS X 2	LEVAR WHITAKER	B	WW- RELIBALITY TECH	Wastewater Operations

Revised 11/30/15

CREW 1

LOTS	EQUIPMENT	NAME	LIC.	POSITION	DEPT.
	7820 / LOADER / WING PLOW	KEVIN CARRIER	A	EQ-5	CONSTRUCTION
5 7 15	739 / FOLLOW TRUCK	DANIEL TAYLOR	A	EQ 2	CONSTRUCTION

CREW 2

LOTS	EQUIPMENT	NAME	LIC.	POSITION	DEPT.
	876 / LOADER	MILO	A	PROJECT LEADER	CONSTRUCTION
2 8 11	7821 / FOLLOW TRUCK	RANDAL EDWARDS	REG	RELIABILITY TECH	CONSTRUCTION

CREW 3

LOTS	EQUIPMENT	NAME	LIC.	POSITION	DEPT.
	7814 / BACKHOE	IAN MANN	A	EQ-5	CONSTRUCTION
1 6 14 18 19	736 / FOLLOW TRUCK	DONTAVIS BROWN	REG	WW-TECH TRAINEE	CONSTRUCTION

CREW 4

LOTS	EQUIPMENT	NAME	LIC.	POSITION	DEPT.
	730 / BACKHOE	JULIAN NEWMAN	B	WW-TECH TRAINEE	CONSTRUCTION
3 9 13 16	713 FOLLOW TRUCK	MARY DANIELS	A	PROJECT LEADER	CONSTRUCTION

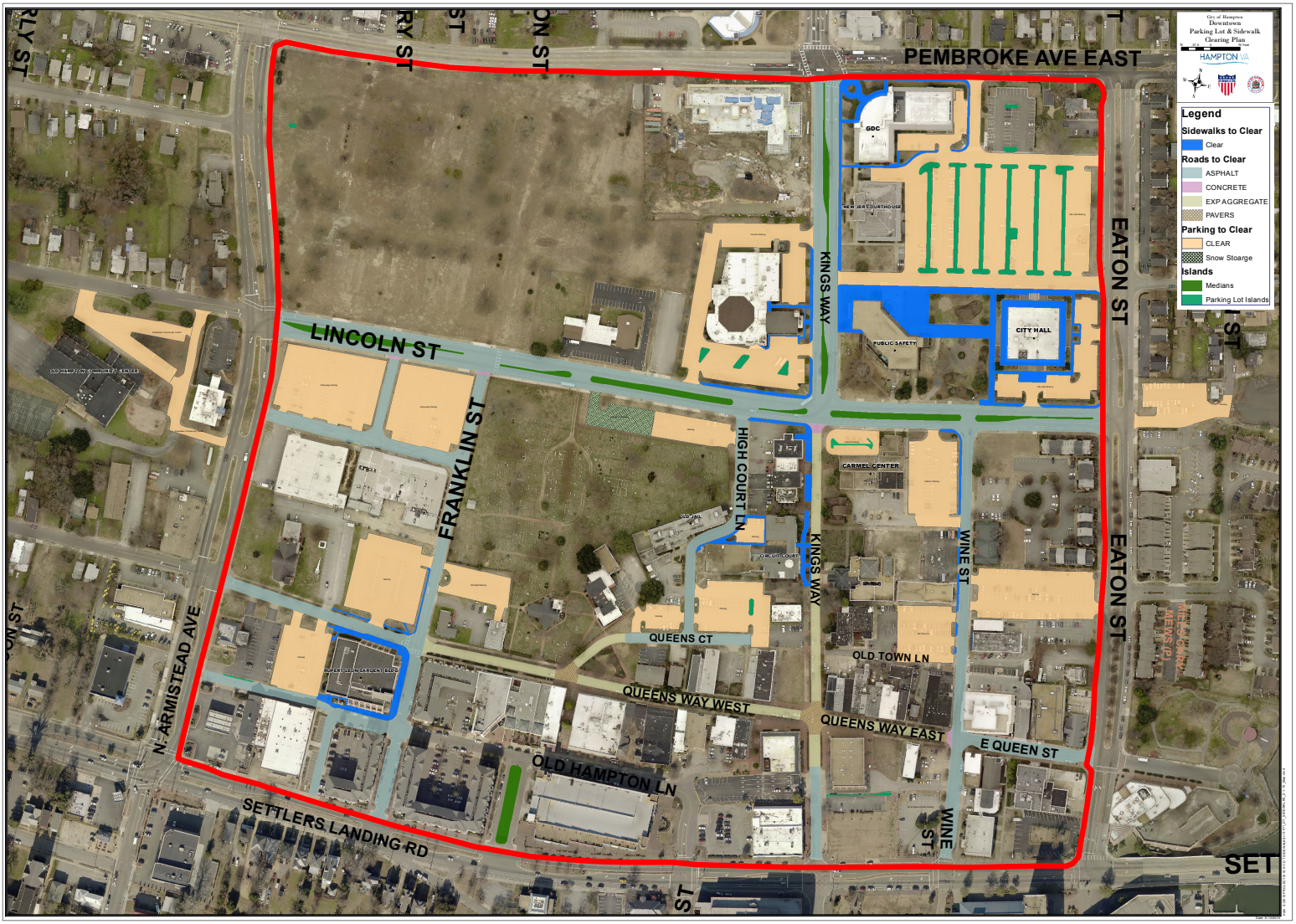
CREW 5

LOTS	EQUIPMENT	NAME	LIC.	POSITION	DEPT.
	702 / BACKHOE	DANIEL ROBERTS	B	WW-TECH TRAINEE	CONSTRUCTION
4 10 17	7824 / FOLLOW TRUCK	ROBERT SNEED	A	EQ-5	CONSTRUCTION

Revised 11/30/15

SNOW BLOWER CREW

LOTS	EQUIPMENT	NAME	LIC.	POSITION	DEPT.
	738 TRUCK & 7166 TRAILER	JAY PARKINSON	B	WW- RELIBALITY TECH	I &I
1 2 3 12	SNOW BLOWERS X 2	LEVAR WHITAKER	B	WW- RELIBALITY TECH	I &I


City of Hampton
Downtown
Parking Lot & Sidewalk
Clearing Plan
HAMPTON VA
Legend
Sidewalks to Clear
Clear
Roads to Clear
ASPHALT
CONCRETE
EXP AGGREGATE
PAVERS
Parking to Clear
CLEAR
Snow Stoarge
Islands
Medians
Parking Lot Islands
PEMBROKE AVE EAST
LINCOLN ST
KINGS WAY
EATON ST
FRANKLIN ST
HIGH COURT LN
CARMEL CENTER
WINE ST
QUEENS CT
OLD TOWN LN
QUEENS WAY WEST
QUEENS WAY EAST
E QUEEN ST
OLD HAMPTON LN
SETTLERS LANDING RD
N ARMISTEAD AVE
GDC
CITY HALL
PUBLIC SAFETY
COURTHOUSE
CIRCUIT COURT
OLD JAIL
MILES B. CARY MEWS (DP)

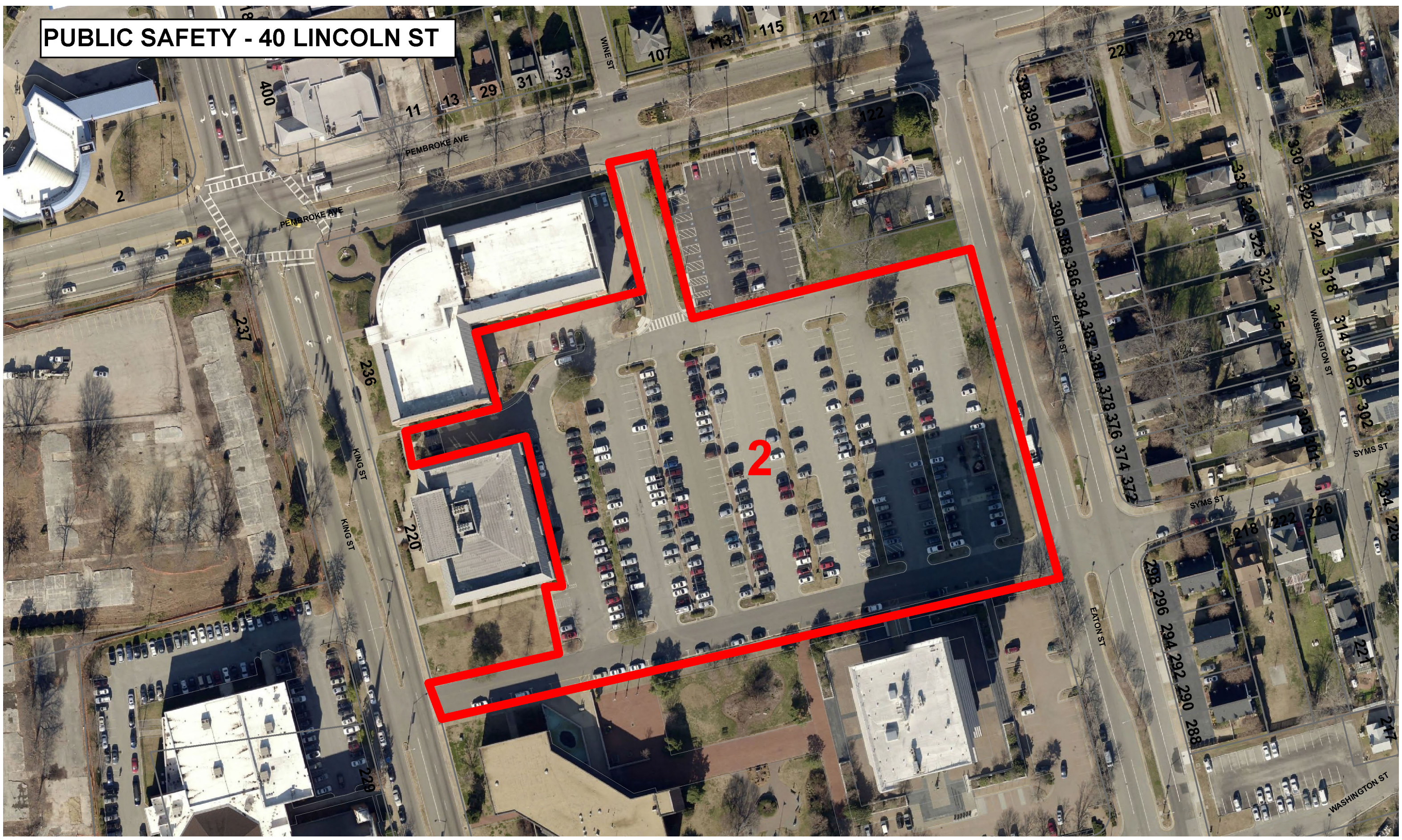
Parking Lot #	Building	Address
1	CITY HALL	22 Lincoln St
2	Public Safety	40 Lincoln St
3	Carmel Center	136 M Kingsway
4	Court House	101 Kingsway
5	Rupert Sargent	1 Franklin St
6	Health Dept	3130 Victoria Blvd
7	Fort Monroe Public Safety	100 Stillwell Dr
8	Social Services	1320 LaSalle Ave
9	Y.H. Thomas	1300 Thomas St
10	PWO	419 N Armistead Ave
11	Parking Lot	Armistead & Lincoln St
12	Air & Space	600 Settlers Landing
13	Old Com. Center	201 Lincoln St
14	Main Library	4207 Victoria Blvd
15	Phoebus Library	1 S Mallory St
16	N. Hampton Lib	936 Big Bethel Rd
17	Willow Oaks Lib	227 Fox Hill Rd
18	Com. Center	4315 Kecoughtan Rd
19	Com. Center	3501 Kecoughtan Rd

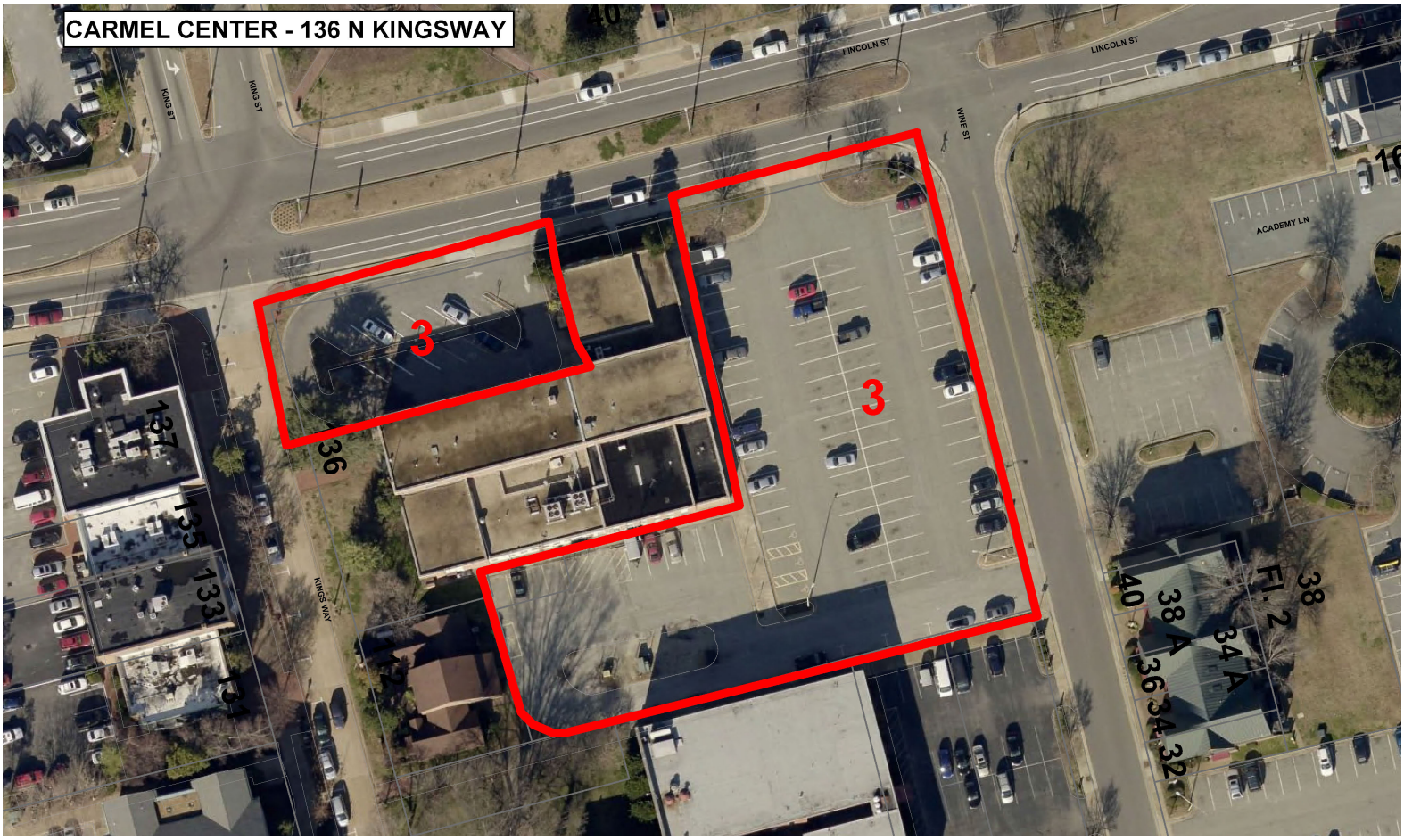
HAMPTON VA

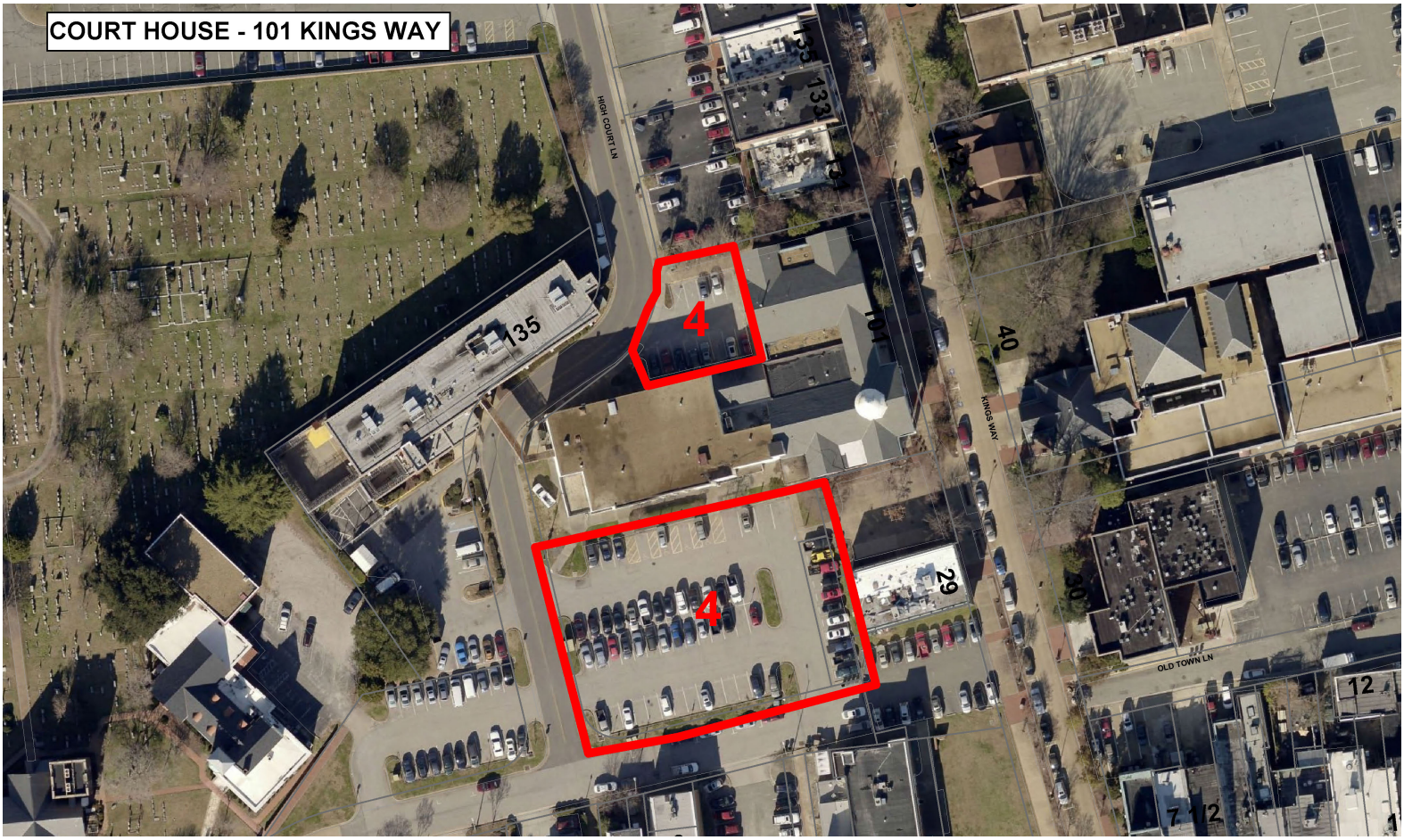
Parking Lot Locations

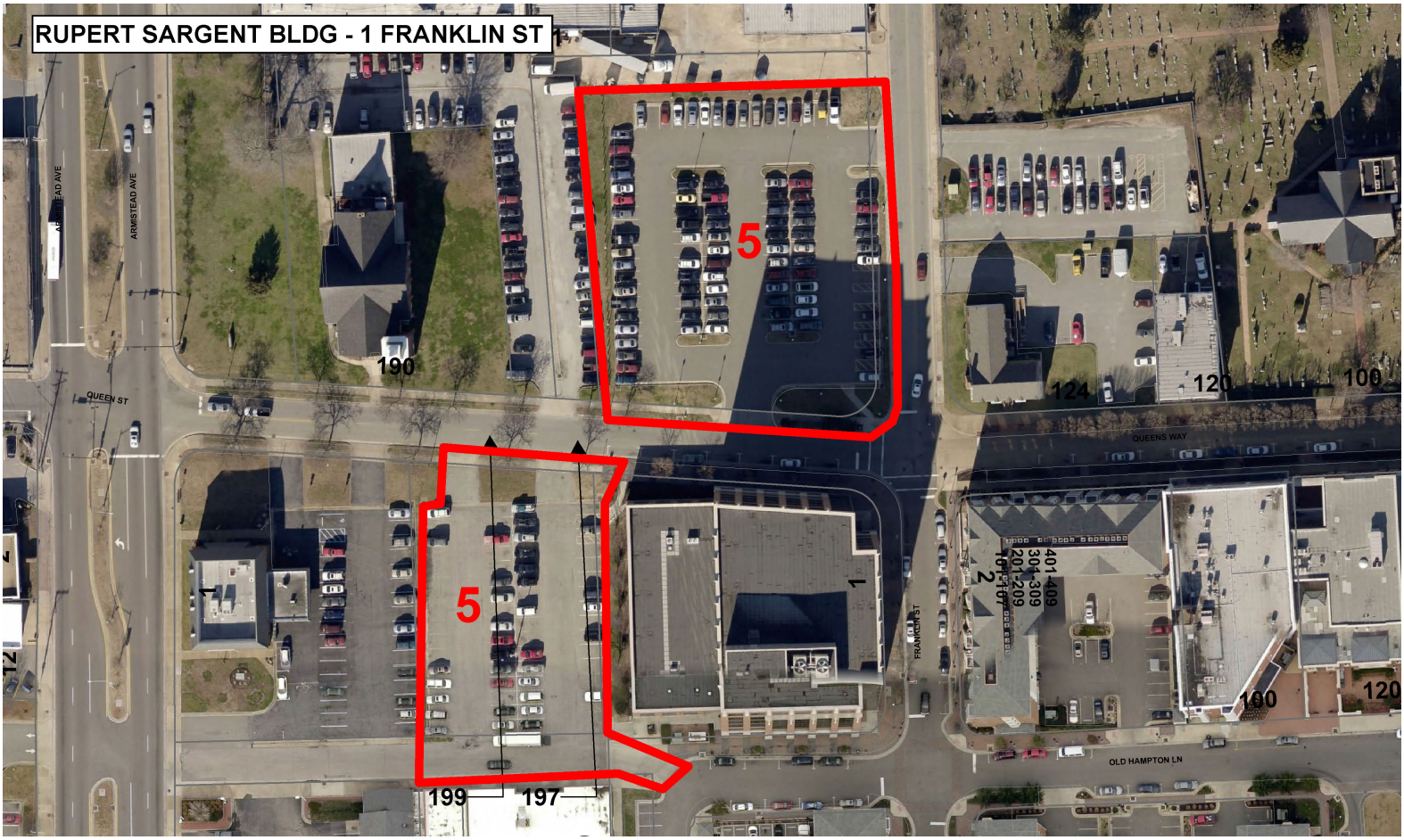

CITY HALL - 22 LINCOLN ST
SYMS ST
218
222
298
296
294
292
290
288
221
1
22
EATON ST
WASHINGTON ST
LINCOLN ST
LINCOLN ST
40
WINE ST
7
3
235
200

PUBLIC SAFETY - 40 LINCOLN ST




CARMEL CENTER - 136 N KINGSWAY
LINCOLN ST
LINCOLN ST
KING ST
KING ST
WINE ST
ACADEMY LN
KINGS WAY
3
3
136
137
135
133
131
132
40
38
Fl. 2
38 A
40
34 A
36
34
32

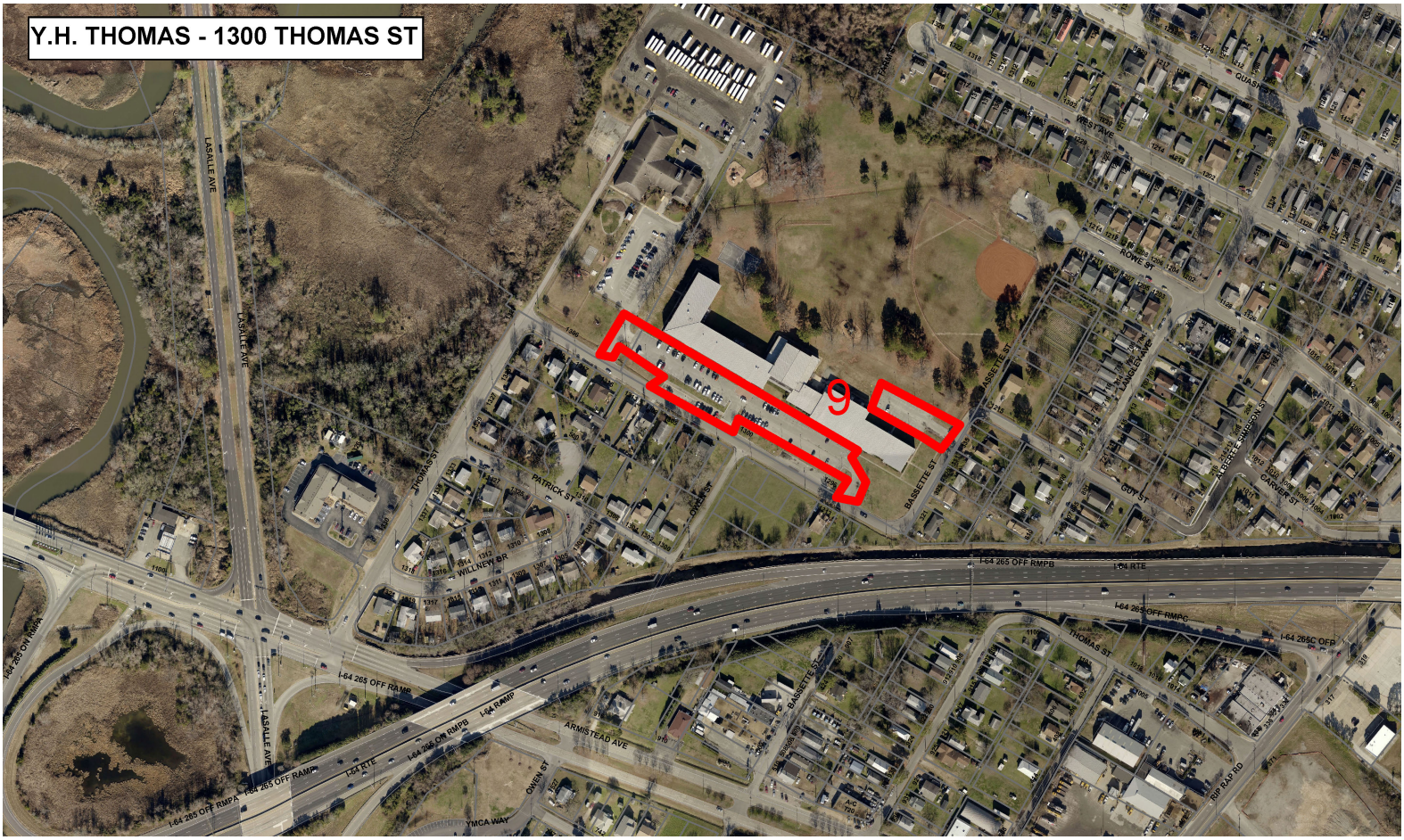

COURT HOUSE - 101 KINGS WAY
HIGH COURT LN
KINGS WAY
OLD TOWN LN
135
133
131
101
40
29
30
4
4
12
7 12


RUPERT SARGENT BLDG - 1 FRANKLIN ST
5
5
190
124
120
100
QUEEN ST
QUEENS WAY
ARMSTEAD AVE
ARMSTEAD AVE
FRANKLIN ST
401-409
301-309
201-209
101-107
199
197
100
120
OLD HAMPTON LN


HEALTH DEPARTMENT - 3130 VICTORIA BLVD
401
VICTORIA BLVD
VICTORIA BLVD
3130
6
6
ALGONQUIN RD
417


FORT MONROE PUBLIC SAFETY - 100 STILLWELL DR
FENWICK RD
BATTERY DERUSSEY
GULLICK DR
STILWELL DR
RUNNING PATH
PULLMAN LN
381
387
383
380
96
7

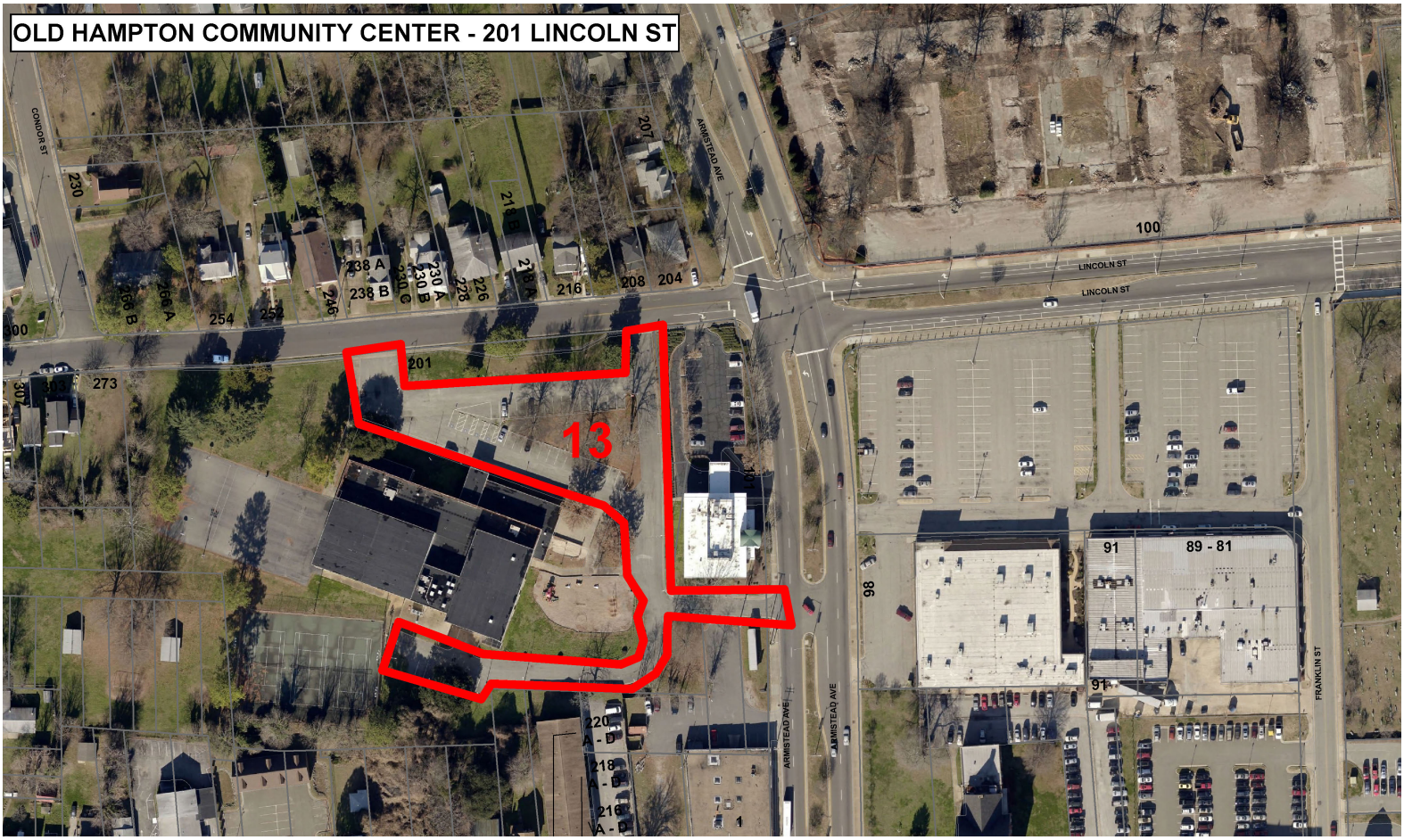

HAMPTON SOCIAL SERVICES - 1320 LASALLE AVE
LASALLE AVE
I-64 265 ON RMPB
I-64 265 OFF RMPA
PATTERSON AVE
GRIFFIN ST
ROOSEVELT ST
MARLEWOOD ST
MICHIGAN DR
CAROLINA ST
PARKDALE AVE
MAPLEWOOD ST
PEMBROKE AVE
LANGLEY AVE
BACK RIVER RD
1320
1322
1307
8
605 A-P
609 A-P
615 A-P
617 A-P
607 A-P
611 A-P
613 A-P
174 - 162
150 - 161
115-105
78-88
77-75
146 - 144
1010
1002
914
912
910
906
915
903
228
224
818
814
812
810
808
821
815
311
317
319
701
656
602


Y.H. THOMAS - 1300 THOMAS ST
9
LASALLE AVE
THOMAS ST
PATRICK ST
WILLNEY DR
BASSETTE ST
ROWE ST
GUY ST
GARNER ST
I-64 265 OFF RMPB
I-64 RTE
I-64 265 OFF RMPC
I-64 265C OFF
I-64 265 OFF RAMP
I-64 RAMP
I-64 265 ON RMPB
I-64 265 OFF RAMP
I-64 265 OFF RMPA
I-64 265 ON RMPA
ARMISTEAD AVE
OWEN ST
YMCA WAY
RIP RAP RD

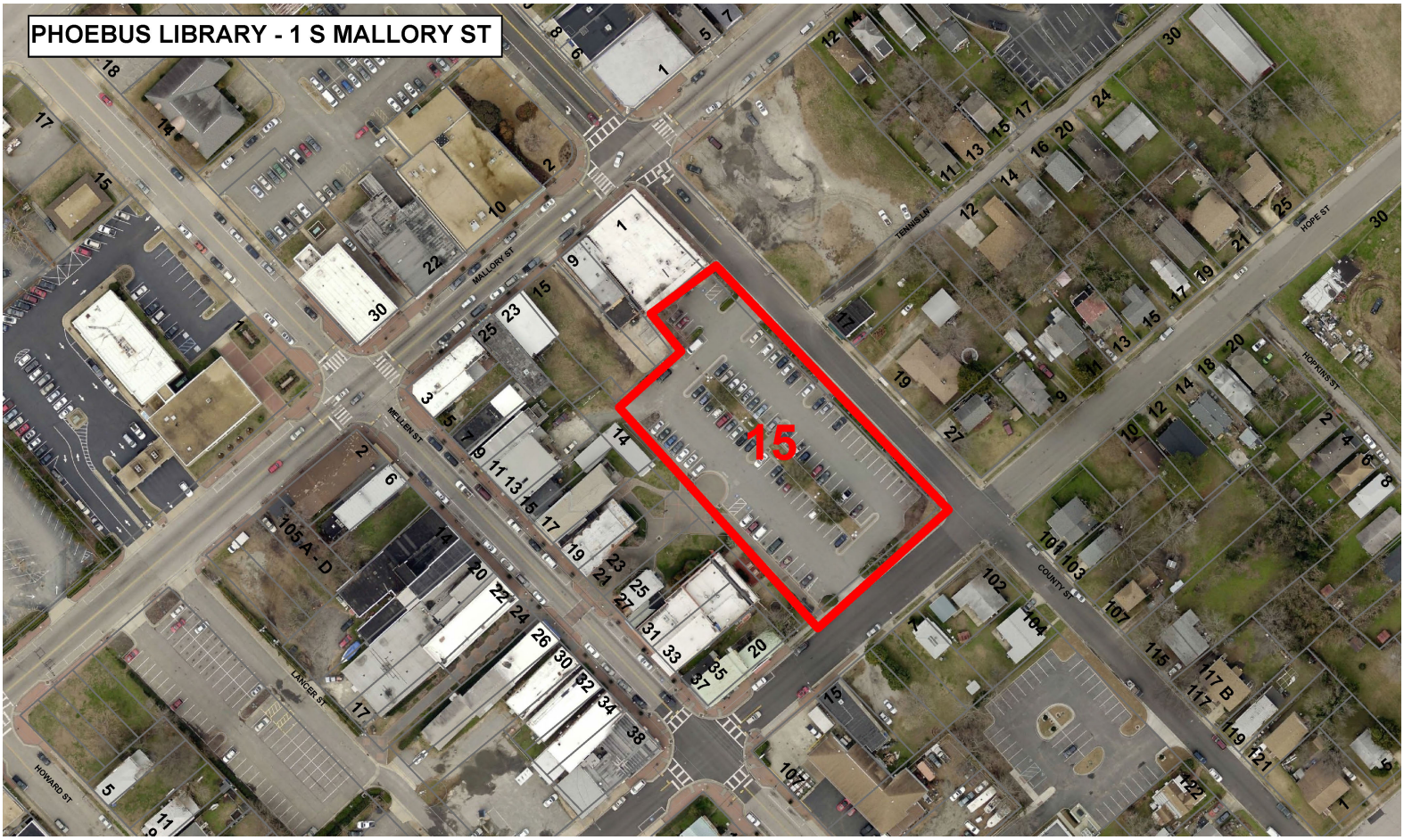

PUBLIC WORKS OPS - 419 N ARMISTEAD AVE
10
ARMISTEAD AVE
PEMBROKE AVE
UNION ST
REDWOOD ST
MAPLEWOOD ST
DOOLEY ST
BACK RIVER RD
WAVERLY ST
ACCOMAC ST
CONDOR ST
REED ST
BASSETTE ST
GRETTA ST
HELFINGER AVE
RIP RAP RD


PARKING LOTS - ARMISTEAD AVE & LINCOLN ST
11
LINCOLN ST
ARMISTEAD AVE
FRANKLIN ST
HIGH COURT LN
QUEEN ST
QUEENS WAY


AIR & SPACE MUSEUM - 600 SETTLERS LANDING RD
OLD HAMPTON LN
HISTORY MUSEUM WAY
555 P
555 O
555 N
555 M
555
555 A
555 B
555 C
555 D
555 E
555 H
555 I
555 J
555 L
550
544 A
544
600
12
602
KINGS WAY
KING ST
WINE ST
SETTLERS LANDING RD
700
20
28
100 D
100 C
100 B
100 A
100
RUDD LN
19
17
15
108
102
101
100
BRIDGE ST
122
120
124


OLD HAMPTON COMMUNITY CENTER - 201 LINCOLN ST
CONDOR ST
ARMSTEAD AVE
LINCOLN ST
LINCOLN ST
FRANKLIN ST
230
207
238 A
238 B
230 A
230 B
230 C
228
226
216
208
204
100
300
266 B
266 A
254
252
246
201
13
273
307
91
89 - 81
86
91
220 A - D
218 A - B
216 A - D
1


MAIN LIBRARY - 4207 VICTORIA BLVD
THORNETTE ST
THORNETTE ST
KECOUGHTAN RD
SHIELDS ST
ARMISTEAD AVE
LINDEN AVE
VICTORIA BLVD
14
4205
4207
4112
4114
4116
4120
4200
4206
4210
4212
4214
4216
4218
4304
514
412
177
440


PHOEBUS LIBRARY - 1 S MALLORY ST
15
MALLORY ST
MELLEN ST
LANGER ST
HOWARD ST
TENNIS LN
HOPE ST
HOPKINS ST
COUNTY ST
105 A - D
117 B


NORTH HAMPTON LIBRARY - 936 BIG BETHEL RD
16
BIG BETHEL RD
OLD BIG BETHEL RD
BERKSHIRE TER
LEICESTER TER
NORTHAMPTON DR
YORKSHIRE TER
TOPPING LN


WILLOW OAKS LIBRARY - 227 FOX HILL RD
17
WILLOW OAKS BLVD
227 Ste. A2
227 Ste. A1
225 Ste. D8
227 Ste. B1 - B4
227 Ste. C1 - C9
227 Ste. 49
225 Ste. D1
FOX HILL RD
BROMLEY DR
MIDLOTHIAN SQ
227
223
221
219
217
215
199
228
230
231
202
204
205
408
406
404
327
50
10


COMMUNITY CENTER - 4315 KECOUGHTAN RD
18
4315
4313
4307
4301
4327
4323
4330
4308
4304
KECOUGHTAN RD
SUNSET RD
SUNSET RD
COLUMBIA AVE
CHARLES ST
539
535
33
31
29
27
25
34
32
30
28
26
24
22
20
18
16
14
12
10
8
6
2
11
4221
4220
4218
25
23
26
24


COMMUNITY CENTER - 3501 KECOUGHTAN RD
19
KECOUGHTAN RD
BRIGHTWOOD AVE
CHEROKEE RD
EAST AVE
ALGONQUIN RD
3501
3505
3515
3533
3401
3403
3405
3400
3500
3500B
3508
3510
3512
3534
3600
3602
3604
3606
3610
3605
1A-D
2A-D
3A-D
4A-D
5A-D
6A-D
7A-D
8A-D
9A-D
10A-D
11A-D
12A-D
13A-D
14A-D

Safety Data Sheet

MORTON SALT, INC.
A K+S Group Company

Section 1: Identification of the Substance/Mixture and of the Company/Undertaking

1.1 Product identifier

Product Name • **Safe-T-Salt**

Synonyms • Bulk Safe-T-Salt; Bulk Safe-T-Salt (Blue); Bulk Safe-T-Salt (Solar); Safe-T-Salt (bagged with YPS)

CAS Number • 7647-14-5

SDS Number/Grade • 91006

1.2 Relevant identified uses of the substance or mixture and uses advised against

Relevant identified use(s) • Ice Control

1.3 Details of the supplier of the safety data sheet

Manufacturer • Morton Salt, Inc.

123 N. Wacker Drive
Chicago, IL 60606
United States

saltinfo@mortonsalt.com

Telephone (General) • 312-807-2000

1.4 Emergency telephone number

Manufacturer • 312-807-2000

Section 2: Hazards Identification

EU/EEC

According to EU Directive 1272/2008 (CLP)/REACH 1907/2006 [amended by 453/2010]
According to EU Directive 67/548/EEC (DSD) or 1999/45/EC (DPD)

2.1 Classification of the substance or mixture

CLP • Not classified

DSD/DPD • Not classified

2.2 Label Elements

CLP

Hazard statements • No label element(s) specifically required

DSD/DPD

Risk phrases • No label element(s) specifically required

2.3 Other Hazards

CLP • According to Regulation (EC) No. 1272/2008 (CLP) this material is not considered hazardous.

DSD/DPD

- According to European Directive 1999/45/EC this preparation is not considered dangerous.

United States (US)

According to OSHA 29 CFR 1910.1200 HCS

2.1 Classification of the substance or mixture

OSHA HCS 2012

- Not classified

2.2 Label elements

OSHA HCS 2012

Hazard statements

- No label element(s) specifically required

2.3 Other hazards

OSHA HCS 2012

- This product is not considered hazardous under the U.S. OSHA 29 CFR 1910.1200 Hazard Communication Standard.

Canada

According to WHMIS

2.1 Classification of the substance or mixture

WHMIS

- Not classified

2.2 Label elements

WHMIS

- No label element(s) specifically required

2.3 Other hazards

WHMIS

- In Canada, the product mentioned above is not considered hazardous under the Workplace Hazardous Materials Information System (WHMIS).

Section 3 - Composition/Information on Ingredients

3.1 Substances

- Material does not meet the criteria of a substance in accordance with Regulation (EC) No 1272/2008.

3.2 Mixtures

Composition

Chemical Name	Identifiers	%	LD50/LC50	Classifications According to Regulation/Directive	Comments
Sodium chloride	CAS:7647-14-5 EC Number:231-598-3	96% TO 99%	Ingestion/Oral-Rat LD50 • 3000 mg/kg	EU DSD/DPD: Not Classified - Criteria not met EU CLP: Not Classified - Criteria not met OSHA HCS 2012: Not Classified - Criteria not met	May contain small quantities of naturally occurring calcium and magnesium salts
Yellow Prussiate of Soda	CAS:13601-19-9 EC Number:	< 0.01%	NDA	EU DSD/DPD: Data lacking EU CLP: Data lacking OSHA HCS 2012: Data lacking	NDA

Prussian Blue	CAS:14038-43-8 EC Number:	< 0.01%	NDA	EU DSD/DPD: Self Classified - Xi, R36 EU CLP: Self Classified - Eye Irrit. 2, H319 OSHA HCS 2012: Eye Irrit. 2	Only in Safe-T-Salt w/Blue

Section 4 - First Aid Measures

4.1 Description of first aid measures

Inhalation
- Move victim to fresh air. Administer oxygen if breathing is difficult. Give artificial respiration if victim is not breathing.

Skin
- IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention.

Eye
- In case of contact with substance, immediately flush eyes with running water for at least 20 minutes. If eye irritation persists: Get medical advice/attention.

Ingestion
- If large quantities are swallowed, call a physician immediately.

4.2 Most important symptoms and effects, both acute and delayed

- Refer to Section 11 - Toxicological Information.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to Physician
- All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

Section 5 - Firefighting Measures

5.1 Extinguishing media

Suitable Extinguishing Media
- Material is non-combustible. In case of fire use media as appropriate for surrounding fire.

Unsuitable Extinguishing Media
- No data available.

5.2 Special hazards arising from the substance or mixture

Unusual Fire and Explosion Hazards
- No unusual fire or explosion hazards known.

Hazardous Combustion Products
- No data available

5.3 Advice for firefighters

- Structural firefighters' protective clothing will only provide limited protection. Wear positive pressure self-contained breathing apparatus (SCBA).

Section 6 - Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal Precautions
- Wear suitable protective clothing, gloves, and eye/face protection.

Emergency Procedures
- Stop leak if you can do it without risk. Keep unauthorized personnel away. Use normal clean up procedures.

6.2 Environmental precautions

- None expected to be necessary if material is used under ordinary conditions and as recommended.

6.3 Methods and material for containment and cleaning up

Containment/Clean-up Measures
- Carefully shovel or sweep up spilled material and place in suitable container.

6.4 Reference to other sections

- Refer to Section 8 - Exposure Controls/Personal Protection and Section 13 - Disposal Considerations.

Section 7 - Handling and Storage

7.1 Precautions for safe handling

Handling
- Use good safety and industrial hygiene practices. Wash thoroughly after handling. Keep out of reach of children.

7.2 Conditions for safe storage, including any incompatibilities

Storage
- Avoid storage with strong acids and strong oxidizing agents. Store in a dry place.

Incompatible Materials or Ignition Sources
- Strong oxidizing agents, strong acids.

7.3 Specific end use(s)

- Refer to Section 1.2 - Relevant identified uses.

Section 8 - Exposure Controls/Personal Protection

8.1 Control parameters

Exposure Limits/Guidelines					
	Result	Canada Quebec	Germany DFG	Mexico	OSHA
Yellow Prussiate of Soda as Cyanide compounds	TWAs	Not established	Not established	5 mg/m3 TWA LMPE-PPT (as CN) *as Cyanide compounds*	5 mg/m3 TWA (as CN) *as Cyanide compounds*
	Ceilings	10 ppm Ceiling (as CN); 11 mg/m3 Ceiling (as CN) *as Cyanide compounds*	2 mg/m3 Peak (inhalable fraction, as CN) *as Cyanide compounds*	Not established	Not established
	MAKs	Not established	2 mg/m3 TWA MAK (inhalable fraction, as CN) *as Cyanide compounds*	Not established	Not established

Exposure Control Notations
Germany DFG

•Yellow Prussiate of Soda as Cyanide Compounds: **Pregnancy:** (no risk to embryo/fetus if exposure limits adhered to (calculated as CN)) | **Skin:** (skin notation)

8.2 Exposure controls

Engineering Measures/Controls
- Adequate ventilation systems as needed to control concentrations of airborne contaminants below applicable threshold limit values.

Personal Protective Equipment

Respiratory
- In case of insufficient ventilation, wear suitable respiratory equipment.

Eye/Face
- Wear safety glasses.

Skin/Body
- Wear appropriate gloves.

General Industrial Hygiene Considerations
- Do not get in eyes or on skin or clothing. Handle in accordance with good industrial hygiene and safety practice.

Environmental Exposure Controls

- Follow best practice for site management and disposal of waste.

Key to abbreviations

PEL = Permissible Exposure Level determined by the Occupational Safety and Health Administration (OSHA)
TWA = Time-Weighted Averages are based on 8h/day, 40h/week exposures
OSHA = Occupational Safety and Health Administration

Section 9 - Physical and Chemical Properties

9.1 Information on Physical and Chemical Properties

Material Description			
Physical Form	Solid	Appearance/Description	Colorless, white or multicolored crystals.
Color	Colorless, white or multicolored	Odor	Odorless
Particulate Type	Dust Crystalline	Particulate Size	Variable
Odor Threshold	Data lacking		
General Properties			
Boiling Point	1413 C(2575.4 F)	Melting Point	801 C(1473.8 F)
Decomposition Temperature	Data lacking	pH	5 to 8
Specific Gravity/Relative Density	2.165 Water=1	Water Solubility	Soluble 0.36 g/cc @ 20 C(68 F)
Viscosity	Not relevant	Explosive Properties	Not relevant.
Oxidizing Properties:	Not relevant.		
Volatility			
Vapor Pressure	1 mmHg (torr) @ 865 C(1589 F) Not relevant	Vapor Density	Data lacking
Evaporation Rate	Data lacking		
Flammability			
Flash Point	Not relevant	UEL	Not relevant
LEL	Not relevant	Autoignition	Not relevant
Flammability (solid, gas)	Not flammable.		
Environmental			
Octanol/Water Partition coefficient	Data lacking		

9.2 Other Information

- No additional physical and chemical parameters noted.

Section 10: Stability and Reactivity

10.1 Reactivity

- No dangerous reaction known under conditions of normal use.

10.2 Chemical stability

- Stable

10.3 Possibility of hazardous reactions

- Hazardous polymerization will not occur.

10.4 Conditions to avoid

- Incompatible materials.

10.5 Incompatible materials

- Strong oxidizing agents, strong acids.

10.6 Hazardous decomposition products

- Will react with strong acids to generate hydrogen chloride and with strong oxidizing agents to generate chlorine gas. Yellow Prussiate of Soda (YPS) may decompose when in contact with strong acids releasing hydrogen cyanide gas.

Section 11 - Toxicological Information

11.1 Information on toxicological effects

GHS Properties	Classification
Acute toxicity	EU/CLP • Classification criteria not met OSHA HCS 2012 • Classification criteria not met
Aspiration Hazard	EU/CLP • Classification criteria not met OSHA HCS 2012 • Classification criteria not met
Carcinogenicity	EU/CLP • Classification criteria not met OSHA HCS 2012 • Classification criteria not met
Germ Cell Mutagenicity	EU/CLP • Classification criteria not met OSHA HCS 2012 • Classification criteria not met
Skin corrosion/irritation	EU/CLP • Classification criteria not met OSHA HCS 2012 • Classification criteria not met
Skin sensitization	EU/CLP • Classification criteria not met OSHA HCS 2012 • Classification criteria not met
STOT-RE	EU/CLP • Classification criteria not met OSHA HCS 2012 • Classification criteria not met
STOT-SE	EU/CLP • Classification criteria not met OSHA HCS 2012 • Classification criteria not met
Toxicity for Reproduction	EU/CLP • Classification criteria not met OSHA HCS 2012 • Classification criteria not met
Respiratory sensitization	EU/CLP • Classification criteria not met OSHA HCS 2012 • Classification criteria not met
Serious eye damage/irritation	EU/CLP • Classification criteria not met OSHA HCS 2012 • Classification criteria not met

Potential Health Effects

Inhalation

Acute (Immediate)
- Under normal conditions of use, no health effects are expected. Inhalation of dust may cause mild irritation to mucous membranes, nose and throat. Symptoms may include coughing, dryness and sore throat.

Chronic (Delayed)
- No data available.

Skin

Acute (Immediate)
- Under normal conditions of use, no health effects are expected.

Chronic (Delayed)
- No data available.

Eye

Acute (Immediate)
- Based upon practical use and experience using this product eye irritation is not expected to occur.

Chronic (Delayed) • No data available.

Ingestion

Acute (Immediate) • Ingestion may cause the following symptoms - diarrhea.

Chronic (Delayed) • No data available.

Key to abbreviations
LD = Lethal Dose

Section 12 - Ecological Information

12.1 Toxicity

• Material data lacking.

12.2 Persistence and degradability

• Material data lacking.

12.3 Bioaccumulative potential

• Material data lacking.

12.4 Mobility in Soil

• Material data lacking.

12.5 Results of PBT and vPvB assessment

• No PBT and vPvB assessment has been conducted.

12.6 Other adverse effects

• No studies have been found.

Section 13 - Disposal Considerations

13.1 Waste treatment methods

Product waste • Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Packaging waste • Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Section 14 - Transport Information

	14.1 UN number	14.2 UN proper shipping name	14.3 Transport hazard class(es)	14.4 Packing group	14.5 Environmental hazards
DOT	NDA	Not regulated	NDA	NDA	NDA
TDG	NDA	Not regulated	NDA	NDA	NDA
IMO/IMDG	NDA	Not regulated	NDA	NDA	NDA
IATA/ICAO	NDA	Not regulated	NDA	NDA	NDA

14.6 Special precautions for user • None known.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC • Not relevant.

Code

Section 15 - Regulatory Information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

SARA Hazard Classifications • None

State Right To Know				
Component	CAS	MA	NJ	PA
Sodium chloride	7647-14-5	No	No	No
Prussian Blue	14038-43-8	No	No	No
Yellow Prussiate of Soda	13601-19-9	No	Yes	Yes

Inventory						
Component	CAS	Canada DSL	Canada NDSL	China	EU EINECS	EU ELNICS
Sodium chloride	7647-14-5	Yes	No	Yes	Yes	No
Prussian Blue	14038-43-8	Yes	No	Yes	Yes	No
Yellow Prussiate of Soda	13601-19-9	Yes	No	Yes	Yes	No

Inventory (Con't.)				
Component	CAS	Japan ENCS	Korea KECL	TSCA
Sodium chloride	7647-14-5	Yes	Yes	Yes
Prussian Blue	14038-43-8	No	Yes	Yes
Yellow Prussiate of Soda	13601-19-9	Yes	Yes	Yes

Australia

Labor

Australia - Work Health and Safety Regulations - Hazardous Substances Requiring Health Monitoring

- Prussian Blue 14038-43-8 Not Listed
- Yellow Prussiate of Soda 13601-19-9 Not Listed
- Yellow Prussiate of Soda as Cyanide compounds Not Listed
- Sodium chloride 7647-14-5 Not Listed

Australia - High Volume Industrial Chemicals List

- Prussian Blue 14038-43-8 Not Listed
- Yellow Prussiate of Soda 13601-19-9 Not Listed
- Yellow Prussiate of Soda as Cyanide compounds Not Listed
- Sodium chloride 7647-14-5

Australia - List of Designated Hazardous Substances - Classification

- Prussian Blue 14038-43-8 Not Listed
- Yellow Prussiate of Soda 13601-19-9 Not Listed
- Yellow Prussiate of Soda as Cyanide compounds Self classification required
- Sodium chloride 7647-14-5 Not Listed

Environment

Australia - National Pollutant Inventory (NPI) Substance List

• Prussian Blue	14038-43-8	Not Listed
• Yellow Prussiate of Soda	13601-19-9	Not Listed
• Yellow Prussiate of Soda as Cyanide compounds		Not Listed
• Sodium chloride	7647-14-5	Not Listed

Australia - Ozone Protection Act - Scheduled Substances

• Prussian Blue	14038-43-8	Not Listed
• Yellow Prussiate of Soda	13601-19-9	Not Listed
• Yellow Prussiate of Soda as Cyanide compounds		Not Listed
• Sodium chloride	7647-14-5	Not Listed

Australia - Priority Existing Chemical Program

• Prussian Blue	14038-43-8	Not Listed
• Yellow Prussiate of Soda	13601-19-9	Not Listed
• Yellow Prussiate of Soda as Cyanide compounds		Not Listed
• Sodium chloride	7647-14-5	Not Listed

Canada

Labor

Canada - WHMIS - Classifications of Substances

• Prussian Blue	14038-43-8	Not Listed
• Yellow Prussiate of Soda	13601-19-9	Not Listed
• Yellow Prussiate of Soda as Cyanide compounds		Not Listed
• Sodium chloride	7647-14-5	Uncontrolled product according to WHMIS classification criteria

Canada - WHMIS - Ingredient Disclosure List

• Prussian Blue	14038-43-8	Not Listed
• Yellow Prussiate of Soda	13601-19-9	Not Listed
• Yellow Prussiate of Soda as Cyanide compounds		Not Listed
• Sodium chloride	7647-14-5	Not Listed

Environment

Canada - CEPA - Priority Substances List

• Prussian Blue	14038-43-8	Not Listed
• Yellow Prussiate of Soda	13601-19-9	Not Listed
• Yellow Prussiate of Soda as Cyanide compounds		Not Listed
• Sodium chloride	7647-14-5	Not Listed

Europe

Other

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Classification

• Prussian Blue	14038-43-8	Not Listed
• Yellow Prussiate of Soda	13601-19-9	Not Listed
• Yellow Prussiate of Soda as Cyanide compounds		Not Listed
• Sodium chloride	7647-14-5	Not Listed

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Concentration Limits

• Prussian Blue	14038-43-8	Not Listed
• Yellow Prussiate of Soda	13601-19-9	Not Listed
• Yellow Prussiate of Soda as Cyanide compounds		Not Listed
• Sodium chloride	7647-14-5	Not Listed

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Labelling

• Prussian Blue	14038-43-8	Not Listed
• Yellow Prusslate of Soda	13601-19-9	Not Listed
• Yellow Prusslate of Soda as Cyanide compounds		Not Listed
• Sodium chloride	7647-14-5	Not Listed

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Notes - Substances and Preparations

• Prussian Blue	14038-43-8	Not Listed
• Yellow Prusslate of Soda	13601-19-9	Not Listed
• Yellow Prusslate of Soda as Cyanide compounds		Not Listed
• Sodium chloride	7647-14-5	Not Listed

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Safety Phrases

• Prussian Blue	14038-43-8	Not Listed
• Yellow Prusslate of Soda	13601-19-9	Not Listed
• Yellow Prusslate of Soda as Cyanide compounds		Not Listed
• Sodium chloride	7647-14-5	Not Listed

Mexico

Other

Mexico - Hazard Classifications

• Prussian Blue	14038-43-8	Not Listed
• Yellow Prusslate of Soda	13601-19-9	Not Listed
• Yellow Prusslate of Soda as Cyanide compounds		Not Listed
• Sodium chloride	7647-14-5	Not Listed

Mexico - Regulated Substances

• Prussian Blue	14038-43-8	Not Listed
• Yellow Prusslate of Soda	13601-19-9	Not Listed
• Yellow Prusslate of Soda as Cyanide compounds		Not Listed
• Sodium chloride	7647-14-5	Not Listed

United States

Labor

U.S. - OSHA - Process Safety Management - Highly Hazardous Chemicals

• Prussian Blue	14038-43-8	Not Listed
• Yellow Prusslate of Soda	13601-19-9	Not Listed
• Yellow Prusslate of Soda as Cyanide compounds		Not Listed
• Sodium chloride	7647-14-5	Not Listed

U.S. - OSHA - Specifically Regulated Chemicals

• Prussian Blue	14038-43-8	Not Listed
• Yellow Prusslate of Soda	13601-19-9	Not Listed
• Yellow Prusslate of Soda as Cyanide compounds		Not Listed
• Sodium chloride	7647-14-5	Not Listed

Environment

U.S. - CAA (Clean Air Act) - 1990 Hazardous Air Pollutants

• Prussian Blue	14038-43-8	Not Listed
• Yellow Prusslate of Soda	13601-19-9	Not Listed
• Yellow Prusslate of Soda as Cyanide compounds		(XCN where X=H or any other group where a formal dissociation may occur. For example KCN or Ca[CN]2)
• Sodium chloride	7647-14-5	Not Listed

U.S. - CERCLA/SARA - Hazardous Substances and their Reportable Quantities

• Prussian Blue	14038-43-8	Not Listed
• Yellow Prussiate of Soda	13601-19-9	Not Listed
• Yellow Prussiate of Soda as Cyanide compounds		Not Listed
• Sodium chloride	7647-14-5	Not Listed

U.S. - CERCLA/SARA - Radionuclides and Their Reportable Quantities

• Prussian Blue	14038-43-8	Not Listed
• Yellow Prussiate of Soda	13601-19-9	Not Listed
• Yellow Prussiate of Soda as Cyanide compounds		Not Listed
• Sodium chloride	7647-14-5	Not Listed

U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances EPCRA RQs

• Prussian Blue	14038-43-8	Not Listed
• Yellow Prussiate of Soda	13601-19-9	Not Listed
• Yellow Prussiate of Soda as Cyanide compounds		Not Listed
• Sodium chloride	7647-14-5	Not Listed

U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances TPQs

• Prussian Blue	14038-43-8	Not Listed
• Yellow Prussiate of Soda	13601-19-9	Not Listed
• Yellow Prussiate of Soda as Cyanide compounds		Not Listed
• Sodium chloride	7647-14-5	Not Listed

U.S. - CERCLA/SARA - Section 313 - Emission Reporting

• Prussian Blue	14038-43-8	Not Listed
• Yellow Prussiate of Soda	13601-19-9	Not Listed
• Yellow Prussiate of Soda as Cyanide compounds		1.0 % de minimis concentration (X+CN- where X = H+ or any other group where a formal dissociation can be made. For example KCN or Ca(CN)2. Chemical Category N106)
• Sodium chloride	7647-14-5	Not Listed

U.S. - CERCLA/SARA - Section 313 - PBT Chemical Listing

• Prussian Blue	14038-43-8	Not Listed
• Yellow Prussiate of Soda	13601-19-9	Not Listed
• Yellow Prussiate of Soda as Cyanide compounds		Not Listed
• Sodium chloride	7647-14-5	Not Listed

U.S. - RCRA (Resource Conservation & Recovery Act) - Phase 4 LDR Rule - Universal Treatment Standards

• Prussian Blue	14038-43-8	Not Listed
• Yellow Prussiate of Soda	13601-19-9	Not Listed
• Yellow Prussiate of Soda as Cyanide compounds		1.2 mg/L (total, wastewater); 590 mg/kg (total, nonwastewater); 0.86 mg/L (amenable, wastewater); 30 mg/kg (amenable, nonwastewater)
• Sodium chloride	7647-14-5	Not Listed

United States - California

Environment

U.S. - California - Proposition 65 - Carcinogens List

• Prussian Blue	14038-43-8	Not Listed
• Yellow Prussiate of Soda	13601-19-9	Not Listed
• Yellow Prussiate of Soda as Cyanide compounds		Not Listed
• Sodium chloride	7647-14-5	Not Listed

U.S. - California - Proposition 65 - Developmental Toxicity

• Prussian Blue	14038-43-8	Not Listed

• Yellow Prussiate of Soda	13601-19-9	Not Listed
• Yellow Prussiate of Soda as Cyanide compounds		Not Listed
• Sodium chloride	7647-14-5	Not Listed

U.S. - California - Proposition 65 - Maximum Allowable Dose Levels (MADL)

• Prussian Blue	14038-43-8	Not Listed
• Yellow Prussiate of Soda	13601-19-9	Not Listed
• Yellow Prussiate of Soda as Cyanide compounds		Not Listed
• Sodium chloride	7647-14-5	Not Listed

U.S. - California - Proposition 65 - No Significant Risk Levels (NSRL)

• Prussian Blue	14038-43-8	Not Listed
• Yellow Prussiate of Soda	13601-19-9	Not Listed
• Yellow Prussiate of Soda as Cyanide compounds		Not Listed
• Sodium chloride	7647-14-5	Not Listed

U.S. - California - Proposition 65 - Reproductive Toxicity - Female

• Prussian Blue	14038-43-8	Not Listed
• Yellow Prussiate of Soda	13601-19-9	Not Listed
• Yellow Prussiate of Soda as Cyanide compounds		Not Listed
• Sodium chloride	7647-14-5	Not Listed

U.S. - California - Proposition 65 - Reproductive Toxicity - Male

• Prussian Blue	14038-43-8	Not Listed
• Yellow Prussiate of Soda	13601-19-9	Not Listed
• Yellow Prussiate of Soda as Cyanide compounds		Not Listed
• Sodium chloride	7647-14-5	Not Listed

United States - Pennsylvania

Labor

U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List

• Prussian Blue	14038-43-8	Not Listed
• Yellow Prussiate of Soda	13601-19-9	Not Listed
• Yellow Prussiate of Soda as Cyanide compounds		
• Sodium chloride	7647-14-5	Not Listed

U.S. - Pennsylvania - RTK (Right to Know) - Special Hazardous Substances

• Prussian Blue	14038-43-8	Not Listed
• Yellow Prussiate of Soda	13601-19-9	Not Listed
• Yellow Prussiate of Soda as Cyanide compounds		Not Listed
• Sodium chloride	7647-14-5	Not Listed

15.2 Chemical Safety Assessment

- No Chemical Safety Assessment has been carried out.

Section 16 - Other Information

Last Revision Date
- 21/April/2014

Preparation Date
- 4/Jan/2010

Disclaimer/Statement of Liability
- The responsibility to provide a safe workplace remains with the user. The user should consider the health hazards and safety information contained herein as a guide and should take those precautions required in an individual operation to instruct employees

and develop work practice procedures for a safe work environment. The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. It is the responsibility of the user to comply with all applicable federal, state, and local laws and regulations. Nothing contained herein is to be construed as a recommendation for use in violation of any patents or of applicable laws or regulations.

Key to abbreviations

NDA = No data available

NOVA Chemicals®

Material Safety Data Sheet

Material Name: Brine Solution **MSDS ID: NOVA-0087**

Section 1 - Product and Company Identification

Synonyms: Salt water, Brine recycle stream, Sodium chloride solution
Chemical Name: Brine solution
Chemical Family: Mixture
Material Use: Operation of underground storage caverns and for salt manufacturing
Chemical Formula: Na^+ (aq) Cl^- (aq); sodium chloride in solution

NOVA Chemicals
P.O. Box 2518, Station M
Calgary, Alberta, Canada T2P 5C6

Product Information: 1-412-490-4063
MSDS Information Email: msdsemail@novachem.com

EMERGENCY Telephone Numbers:
North America (Canada and US):
1-800-561-6682, 1-403-314-8767 (NOVA Chemicals) (24 hours)
1-800-424-9300 (CHEMTREC-USA) (24 hours)
1-613-996-6666 (Canutec-Canada) (24 hours)

Section 2 - Hazards Identification

HMIS Ratings: Health: 1 **Fire:** 0 **Physical Hazard:** 0
*Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe * = Chronic hazard*
NFPA Ratings: Health: 0 **Fire:** 0 **Reactivity:** 0
Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

Emergency Overview
CAUTION! Product is a clear to cloudy white liquid with no odour. This product may be irritating to the eyes, skin, and respiratory system.

Potential Health Effects: Eye
This product may cause eye irritation. Symptoms may include itching, reddening, excess tearing and swelling.

Potential Health Effects: Skin
This product may cause drying, irritation and possible dermatitis.

Potential Health Effects: Ingestion
Ingestion of very large quantities may cause nausea, vomiting, dehydration, diarrhoea, oedema, and possible death. Prolonged over consumption may result in high blood pressure and heart problems.

Potential Health Effects: Inhalation
This product may cause irritation to the respiratory system.

Section 3 - Composition/Information on Ingredients

CAS No.	Component	Percent by Wt.
7732-18-5	Water	74-82
7647-14-5	Sodium chloride	18-26

Additional Information
This product is hazardous under 29 CFR 1910.1200 (Hazard Communication).
This material is a controlled product under Canadian WHMIS regulations.
This material is not regulated as a hazardous material / dangerous goods for transportation.

See Section 8 for applicable exposure limits. See Section 11 for applicable toxicity data.

Section 4 - First Aid Measures

First Aid: Eyes
Remove contact lenses, if it can be done safely. Immediately flush eyes with water for at least 15 minutes, while holding eyelids open. Seek medical attention if symptoms develop or persist.

First Aid: Skin
Remove contaminated clothing and shoes. Wash immediately with soap and water. Seek medical attention if symptoms develop or persist.

First Aid: Inhalation

Move affected individual to non-contaminated air. Loosen tight clothing such as a collar, tie, belt or waistband to facilitate breathing. Seek immediate medical attention if the individual is not breathing, is unconscious or if any other symptoms persist.

First Aid: Ingestion

DO NOT INDUCE VOMITING. Loosen tight clothing such as a collar, tie, belt or waistband. Seek immediate medical attention.

First Aid: Notes to Physician

Treat symptomatically. Treatment for overexposure should be directed at controlling the symptoms and clinical condition of the patient. Unless symptoms reappear, no further treatment is required. For more detailed medical emergency support information call 1-800-561-6682 or 1-403-314-8767 (24 hours, NOVA Chemicals Emergency Response).

Section 5 - Fire Fighting Measures

See Section 9: Physical Properties for flammability limits, flash point and auto-ignition information.

General Fire Hazards

Not a fire hazard. Does not burn.

Explosion Hazards

Not an explosion hazard.

Hazardous Combustion Products

None. Does not burn.

Extinguishing Media

Does not burn. Use extinguishing media suitable to surrounding fire conditions; e.g. dry chemical, foam, carbon dioxide, water fog or water spray.

Fire Fighting Equipment/Instructions

Firefighters should wear personal protective equipment suitable for the fire conditions and the materials burning.

Section 6 - Accidental Release Measures

Evacuation Procedures

Isolate area. Keep unnecessary personnel away.

Small Spills

Stop or reduce discharge if safe to do so. Prevent entry into water intakes and waterways. Remove liquid material with approved pumps or vacuum equipment.

Large Spills

Stop or reduce leak. Isolate, contain, and attempt to recover. Prevent entry into water intakes and waterways. Remove liquid material with approved pumps or vacuum equipment. Spill area may be washed down with water, with wash waters collected for testing and proper disposal.

Special Procedures

Contact local police/emergency services and appropriate emergency telephone numbers provided in Section 1. Ensure that statutory and regulatory reporting requirements in the applicable jurisdiction are met. Wear appropriate protective equipment and clothing during cleanup. Individuals without appropriate protective equipment should be excluded from area of spill until cleanup has been completed.

See Section 8 for recommended Personal Protective Equipment and see Section 13 for waste disposal considerations.

Section 7 - Handling and Storage

Handling Procedures

Material is slowly corrosive to metal. Handle in properly designed and approved equipment systems. Periodically inspect pipelines and other equipment for integrity and corrosion. Do not ingest or inhale. If ingested, seek medical advice immediately. Avoid contact with skin and eyes. Keep away from incompatible materials. After handling, always wash hands thoroughly with soap and water.

Storage Procedures

Storage area should be clearly identified, well-illuminated, clear of obstruction and accessible only to trained and authorized personnel. Adequate security must be provided so that unauthorized personnel do not have access to the product. Storage ponds and tank areas should be periodically inspected and kept separate from fresh water supply or outlets.

See Section 8: Exposure Controls/Personal Protection for appropriate Personal Protective Equipment. See Section 10 for information on Incompatibilities.

Section 8 - Exposure Controls / Personal Protection

Exposure Guidelines

A: General Product Information

Keep formation of airborne dusts or mists to a minimum. Ensure that eyewash stations and safety showers are in close proximity to the work locations.

B: Component Exposure Limits

ACGIH, OSHA, NIOSH, EPA, Alberta and Ontario have not developed exposure limits for any of this product's components. Other exposure limits may apply, check with proper authorities.

ENGINEERING CONTROLS

Provide adequate ventilation to maintain worker exposure below levels that are irritating to the eyes or skin. Administrative (procedure) controls and use of personal protective equipment may also be required.

PERSONAL PROTECTIVE EQUIPMENT

Personal Protective Equipment: Eyes/Face

Chemical goggles are recommended. If splashing is possible use chemical goggles and a full-face shield. Carefully rinse off contaminated goggles before removing.

Personal Protective Equipment: Skin/Hands/Feet

Use chemically resistant gloves when handling product. Wear chemical-resistant safety footwear with good traction to prevent slipping. Work clothing that sufficiently prevents skin contact should be worn, such as coveralls and/or long sleeves and pants. If splashing or contact with liquid material is possible, consider the need for an impervious overcoat.

Personal Protective Equipment: Respiratory

If engineering controls and ventilation are not sufficient to prevent buildup of aerosols or vapours, appropriate NIOSH approved respiratory protection should be used.

Personal Protective Equipment: General

Personal protective equipment (PPE) should not be considered a long-term solution to exposure control. Employer programs to properly select, fit, maintain, and train employees to use equipment must accompany PPE. Consult a competent industrial hygiene resource, the PPE manufacturer's recommendation, and/or applicable regulations to determine hazard potential and ensure adequate protection.

Section 9 - Physical & Chemical Properties

Physical State and Appearance:	Clear/Cloudy Liquid	**Colour:**	Clear to white
Odour	Odourless	**pH:**	Range: 6.5 to 8.5
Vapour Pressure:	Not applicable	**Vapour Density at 0°C (Air=1):**	Not applicable
Boiling Point:	>100°C (>212°F)	**Freezing Point:**	-10°C (14°F)
Solubility (H2O):	Miscible (water-based solution)	**Specific Gravity (Water=1):**	1.2 at 15°C (60°F)
Auto Ignition:	Not applicable	**Flash Point:**	Not applicable
Flash Point Method:	Not applicable	**Upper Flammable Limit (UFL):**	Not applicable
Lower Flammable Limit (LFL):	Not applicable	**Flammability Classification:**	Non-flammable

Section 10 - Stability & Reactivity Information

Chemical Stability

This product is a stable material.

Chemical Stability: Conditions to Avoid

None identified.

Incompatibility

In presence of air, liquid contact or mists will slowly corrode most metals.

Possibility of Hazardous Reactions or Hazardous Polymerization

Hazardous polymerization will not occur.

Corrosivity

Corrosive to most metals upon prolonged contact.

Hazardous Decomposition

None identified. Does not burn.

Section 11 - Toxicological Information

A: Acute Toxicity - General Product Information

This product has not been tested.

B: Acute Toxicity - LD50/LC50

Water (7732-18-5)

Oral LD50 Rat: >90 mL/kg

Sodium chloride (7647-14-5)

Inhalation LC50 Rat: >42 g/m3/1H; Oral LD50 Rat: 3 g/kg; Dermal LD50 Rabbit: >10 g/kg

C: Chronic Toxicity - General Product Information

This product has not been tested.

D. Chronic Toxicity - Carcinogenic Effects

None of this product's components are listed by ACGIH, EPA, IARC, OSHA, NIOSH, or NTP as a carcinogen.

Section 12 - Ecological Information

Ecotoxicity

A: General Product Information

This product has not been tested. A concentrated brine solution (~26% sodium chloride) will dehydrate animal and vegetative species. Sodium chloride is practically non-toxic to aquatic organisms.

B: Component Analysis - Ecotoxicity – Aquatic/Terrestrial Toxicity

Sodium chloride (7647-14-5)

Test and Species	Results and Conditions
96 Hr LC50 Lepomis macrochirus	5560-6080 mg/L [flow-through]
96 Hr LC50 Lepomis macrochirus	12,946 mg/L [static]
96 Hr LC50 Pimephales promelas	6020-7070 mg/L [static]
96 Hr LC50 Pimephales promelas	7050 mg/L [semi-static]
96 Hr LC50 Pimephales promelas	6420-6700 mg/L [static]
96 Hr LC50 Oncorhynchus mykiss	4747-7824 mg/L [flow-through]
48 Hr EC50 Daphnia magna	1000 mg/L
48 Hr EC50 Daphnia magna	340.7 - 469.2 mg/L [static]

Environmental Fate/Mobility

This product has not been tested. Brine does not partition to air. When spilled into a body of water, the brine will disperse in and mix with the water. A large brine spill into a body of water could result in stratification with the water floating on top of the brine. Eventually the two will mix. When spilled onto soil, brine will behave similar to spilled water. Sodium chloride may leach from soil into groundwater.

Persistence/Degradability

This product has not been tested. Brine (sodium chloride) is not biodegradable.

Bioaccumulation/Accumulation

This product has not been tested.

Section 13 - Disposal Considerations

U.S./Canadian Waste Information

A: General Product Information

This product is not expected to be a hazardous waste according to US regulations. This product may meet the definition of a hazardous waste according to Canadian regulations. The use, mixing or processing of this product may alter its properties or hazards. Contact federal, provincial/state and local authorities in order to generate or ship a waste material associated with this product to ensure materials are handled appropriately and meet all criteria for disposal of hazardous waste.

See Section 7: Handling and Storage and Section 8: Exposure Controls/Personal Protection for additional information that may be applicable for safe handling and the protection of employees.

B: Component Waste Numbers

No EPA Waste Numbers are applicable for this product's components.

Section 14 - Transportation Information

US DOT Information

Shipping Name: NOT REGULATED as a Hazardous Material for Transportation.

Canadian TDG Information

Shipping Name: NOT REGULATED as a Dangerous Good for Transportation.

International Air Transport Association (IATA) and International Civil Aviation Organization (ICAO) Information

Shipping Name: NOT REGULATED as a Dangerous Good for Transportation.

International Maritime Dangerous Goods (IMDG) Code

Shipping Name: NOT REGULATED as a Dangerous Good for Transportation.

Section 15 - Regulatory Information

A: International Regulations

Component Analysis - International Inventory Status

Component	CAS No.	US - TSCA	EU - EINECS	CANADA - DSL
Water	7732-18-5	Yes	Yes	Yes
Sodium chloride	7647-14-5	Yes	Yes	Yes

B: USA Federal & State Regulations

Ongoing occupational hygiene, medical surveillance programs, site emission or spill reporting may be required by federal or state regulations. Check for applicable regulations.

USA OSHA Hazard Communication Class

This product is hazardous under 29 CFR 1910.1200 (Hazard Communication). HCS Classes:
HCS CLASS: Irritating substance.

USA Right-to-Know - Federal

None of this products components are listed under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), or CERCLA (40 CFR 302.4).

USA Right-to-Know - State

None of this product's components are listed on the state lists from NJ or PA. Some components (including those present only in trace quantities, and therefore not listed in this document) may be included on the Right-To-Know lists of other U.S. states. The reader is therefore cautioned to contact his or her NOVA Chemicals' representative or NOVA Chemicals' Product Integrity group for further U.S. State Right-To-Know information.

C: Canadian Regulations - Federal and Provincial

Canadian Environmental Protection Act (CEPA): This product is a mixture of naturally-occurring substances. All components are on the Domestic Substances List (DSL), and are acceptable for use under the provisions of CEPA.

Ingredient Disclosure List (IDL)

No components are listed under the Canadian Hazardous Products Act - Ingredient Disclosure List (IDL).

WHMIS Classification

Workplace Hazardous Materials Information System (WHMIS): This product has been classified in accordance with the hazard criteria of the CPR (Controlled Products Regulations) and the MSDS contains all the information required by the CPR.
WHMIS CLASS D2B: Toxic (Skin/eye irritant)

Other Regulations

Ongoing occupational hygiene, medical surveillance programs, site emission or spill reporting may be required by federal or provincial regulations. Check for applicable regulations.

Section 16 - Other Information

Label Information

CAUTION! Product is a clear to cloudy white liquid with no odour. This product may be irritating to the eyes, skin, and respiratory system.
FIRST AID:
SKIN: Remove contaminated clothing and shoes. Wash immediately with soap and water. Seek medical attention if symptoms develop or persist.
EYES: Remove contact lenses, if it can be done safely. Immediately flush eyes with water for at least 15 minutes, while holding eyelids open. Seek medical if symptoms develop or persist.

INHALATION: Move affected individual to non-contaminated air. Loosen tight clothing such as a collar, tie, belt or waistband to facilitate breathing. Seek immediate medical attention if the individual is not breathing, is unconscious or if any other symptoms persist.
INGESTION: DO NOT INDUCE VOMITING. Loosen tight clothing such as a collar, tie, belt or waistband. Seek immediate medical attention.
IN CASE OF LARGE SPILL: Stop or reduce leak. Isolate, contain, and attempt to recover. Prevent entry into water intakes and waterways. Remove liquid material with approved pumps or vacuum equipment. Spill area may be washed down with water, with wash waters collected for testing and proper disposal.

References

Available on request

Key/Legend

ACGIH = American Conference of Governmental Industrial Hygienists; ADR = Transport of Dangerous Goods by Road; ADR/RID = European Agreement of Dangerous Goods by Road/Rail; BOD = Biochemical Oxygen Demand; CAS = Chemical Abstracts Service; CEPA = Canadian Environmental Protection Act; CERCLA = Comprehensive Environmental Response, Compensation, and Liability Act; CFR = Code of Federal Regulations; CPR = Controlled Products Regulations; DFG = Deutsche Forschungsgemeinschaft; DOT = Department of Transportation; DSL = Domestic Substances List; EC50 = Effective Concentration 50%; EEC = European Economic Community; EINECS = European Inventory of Existing Commercial Chemical Substances; ELINCS = European List of Notified Chemical Substances; EPA = Environmental Protection Agency; EU = European Union; FDA = Food and Drug Administration; GHS = Globally Harmonized System for the Classification and Labelling of Chemicals; HCS = Hazard Communication Standard; HMIS = Hazardous Materials Identification System; IARC = International Agency for Research on Cancer; IATA = International Air Transport Association; ICAO = International Civil Aviation Organization; IDL = Ingredient Disclosure List; IDLH = Immediately Dangerous to Life or Health; IMDG = International Maritime Dangerous Goods; IMO = International Maritime Organization; ISHL = Industrial Safety and Health Law; Kow = Octanol/water partition coefficient; LC50 = Lethal Concentration 50%; LD50 = Lethal Dose 50%; LEL = Lower Explosive Limit; LFL = Lower Flammable Limit; LLV = Level Limit Ceiling Limit (Sweden dust); MAK = Maximum Concentration Value in the Workplace; MITI = Ministry of International Trade and Industry; MSDS = Material Safety Data Sheet; NAB = Threshold Values (Indonesia); NCEC = National Chemical Emergency Centre; NDSL = Non-Domestic Substances List; NFPA = National Fire Protection Association; NIOSH = National Institute for Occupational Safety and Health; NJTSR = New Jersey Trade Secret Registry; NTP = National Toxicology Program; OEL = Occupational Exposure Limit; OSHA = Occupational Safety and Health Administration; PEL = Permissible Exposure Limit; PNOC = Particulates Not Otherwise Classified; PPE = Personal Protective Equipment; PRTR = Designated Chemical Substance Law (Japan); PSD = Short Term Exposure Limit (Indonesia); RCRA = Resource Conservation and Recovery Act; REACH = Registration, Evaluation, Authorisation and Restriction of Chemical Substances; REL = Recommended Exposure Limit; RID = Transport of Dangerous Goods by Rail; SARA = Superfund Amendments and Reauthorization Act; SCBA = Self Contained Breathing Apparatus; SDS = Safety Data Sheet; SEPA = State Environmental Protection Administration; STEL = Short Term Exposure Limit; TDG = Transportation of Dangerous Goods; TLV = Threshold Limit Value; TSCA = Toxic Substances Control Act; TWA = Time Weighted Average; UEL = Upper Explosive Limit; UFL = Upper Flammable Limit; VLA-ED = Valor límite Ambiental de Exposición Diaria (Environmental Exposure Daily Limit Value); VME = valeur limite d'exposition (Occupational Exposure Limits); WHMIS = Workplace Hazardous Materials Information Systems

MSDS Prepared By: NOVA Chemicals
MSDS Information Phone Number: 1-412-490-4063

Other Information

Notice to Reader:
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This is the end of MSDS # NOVA-0087.

POST STORM RESPONSE FEEDBACK

Please provide your honest feedback on how you view the response. Additionally, feel free to make recommendations on ways to improve future storm responses. Please complete the sections below.

On a scale of 1 (worst) to 5 (best), how would you judge your department's response to the storm? **1 2 3 4 5**
Based on your answer given above, how would you recommend ways to improve your department's response?
In your own words, list the things you like best about the latest storm response. Additionally, list any ideas or ways to improve.
In your own words, list the things you like least about the latest storm response. Additionally, list any ideas or ways to improve.
Please use this space to make other recommendations to improve future storm responses. Please use additional sheet of blank paper if needed :